



Radial Cement Bond  
Gamma Ray  
Casing Collar Log

Company Whiting Oil & Gas Corporation				Company Whiting Oil & Gas Corporation			
Well Razor Federal 26J-3510B				Well Razor Federal 26J-3510B			
Field Wildcat				Field Wildcat			
County Weld				County Weld			
State Colorado				State Colorado			
Location:				API # : 05-123-38344			
SHL: 2251' FSL 1981' FEL Lat/Long: 40.80855/-103.829742				Other Services Plug RCBL Gauge ring			
SEC 26 TWP 10N RGE 58W				Elevation			
Permanent Datum				Ground Level			
Log Measured From				Kelly Bushing			
Drilling Measured From				Kelly Bushing			
Elevation				4726'			
K.B. 4743' D.F. --- G.L. 4726'							
Date	June 6, 2014						
Run Number	Three						
Depth Driller	12.120 FT						
Depth Logger	5.040 FT						
Bottom Logged Interval	5.040 FT						
Top Log Interval	Surface						
Open Hole Size	8.750"						
Type Fluid	Water						
Density / Viscosity	8.34 lbm/gal						
Max. Recorded Temp.	-----						
Estimated Cement Top	52 FT						
Time Well Ready	ROA						
Time Logger on Bottom	-----						
Equipment Number	HD-0325						
Location	Fort Lupton, CO						
Recorded By	R. Harris						
Witnessed By	Cory Chapman						
Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
Casing Record	Size (in)	Wgt (lbs/Ft)	Grade	Top	Bottom		
Surface Casing	9 5/8"	36	J-55 LTC	Surface	1,562 FT		
Intermediate #1							
Intermediate #2	7"	26	P-110	Surface	5,920 FT		
Liner	4 1/2"	11.6	HCP-110	5,020 FT	12,120 FT		

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

Log ran as per Customer request.  
Depth reference to Casing Tally reported Liner top @ 5,020 FT.  
Adjusted log 7 FT to correlate with Liner Top.  
Log ran to surface.  
Log ran with 1500 PSI surface induced pressure.  
No debris found on logging tools upon completion of operations.  
  
Thank you for choosing FMC Technologies Completion Services, Inc.!!



Main Pass

Logged With 1500 PSI At Surface

Database File:06-06-14\_whiting\_razor federal 26j-3510b\_mit\_rbl.db

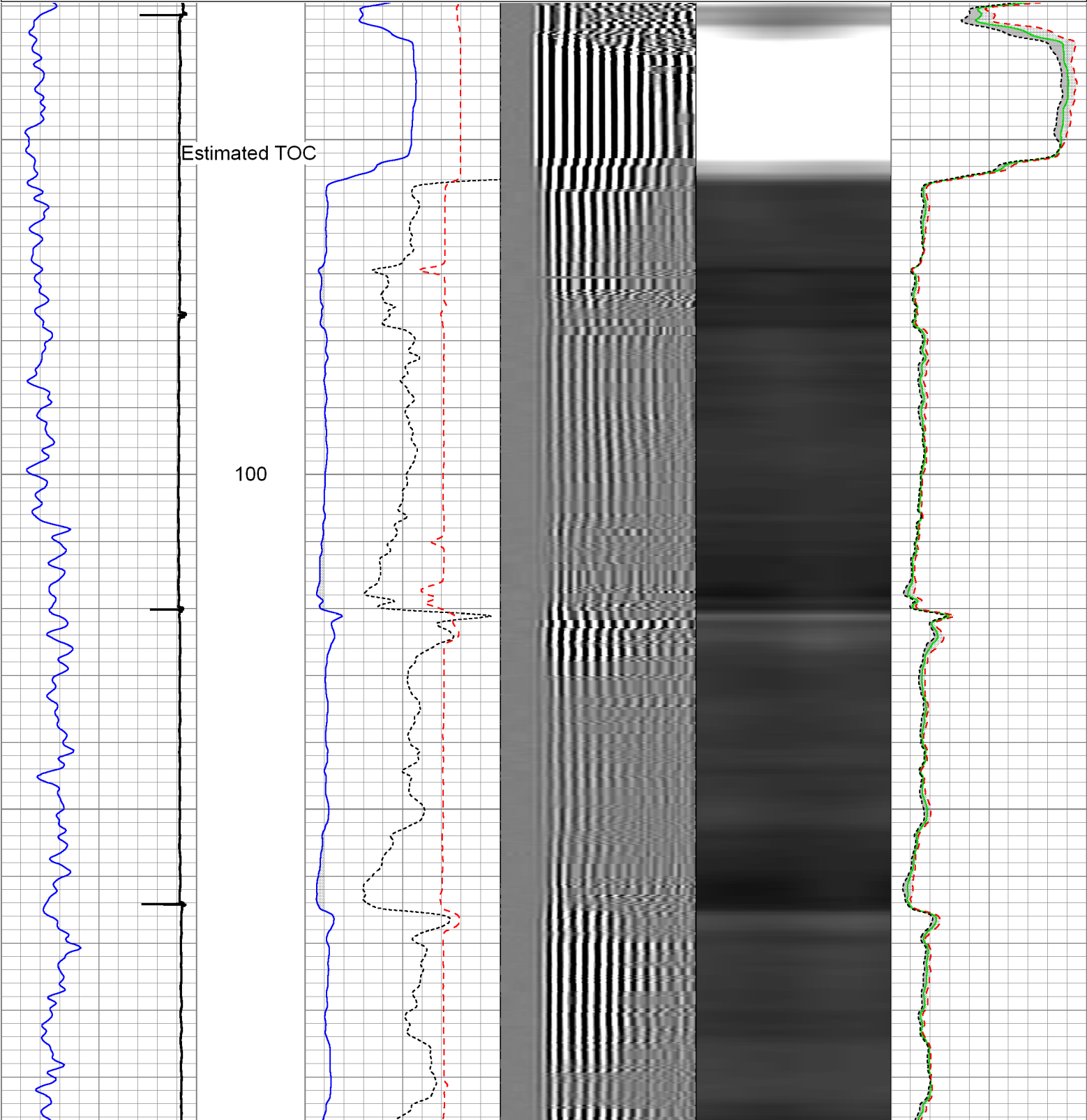
Dataset Pathname:main

Presentation Format:rbt4\_mit

Dataset Creation:Fri Jun 06 11:30:25 2014 by Log Sondex V7.03

Charted by:Depth in Feet scaled 1:240

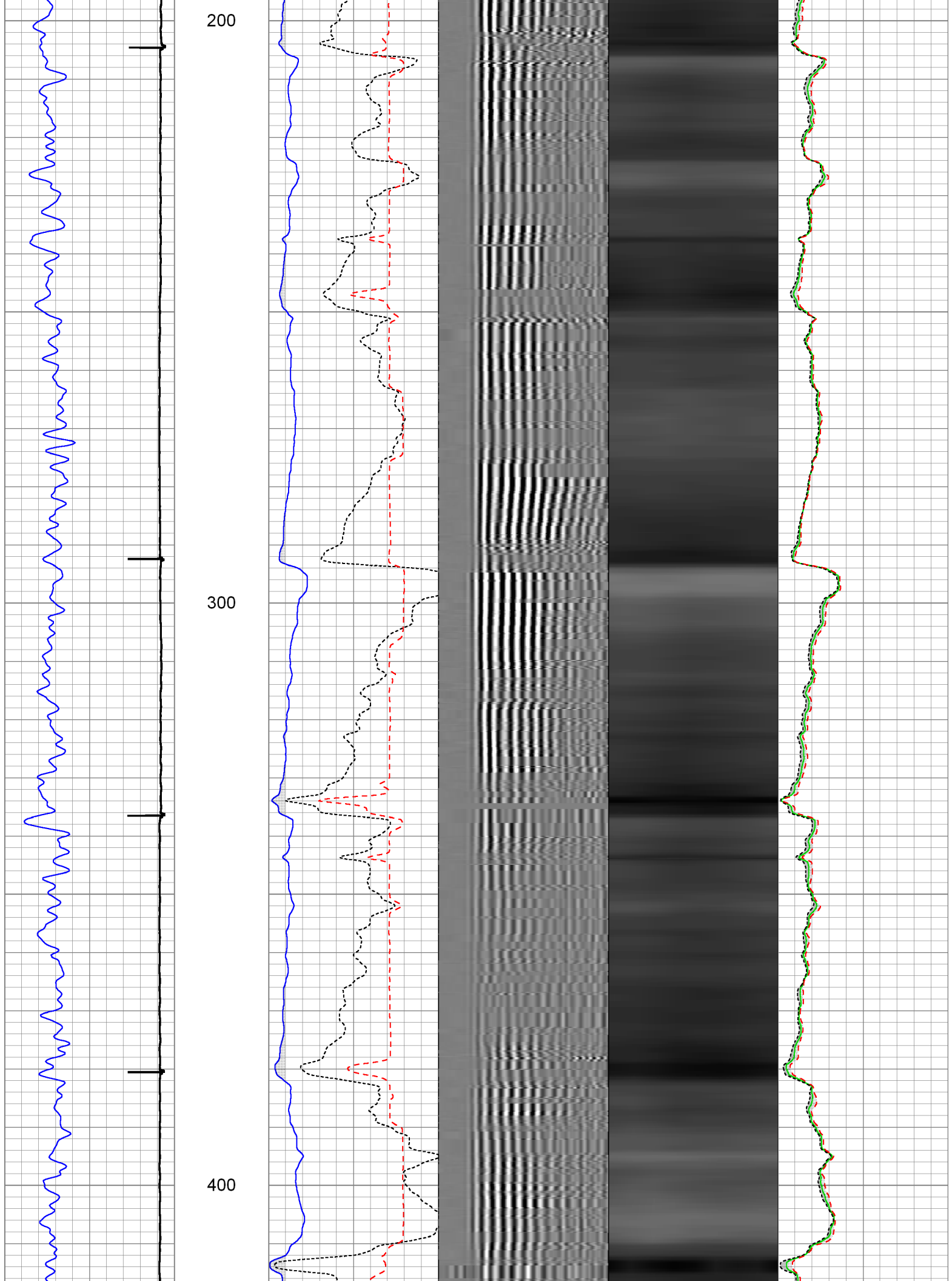
Gamma Ray	3' Amplitude	5' Variable Density Log	Sector Map	Average Amplitude
0 (GAPI) 120	0 (mV) 100	200 1200		0 100
Casing Collar Locator	3' Amplitude x 5			Minimum Amplitude
	0 (mV) 20			0 100
	3' Travel Time			Maximum Amplitude
	650 (usec) 150			0 100

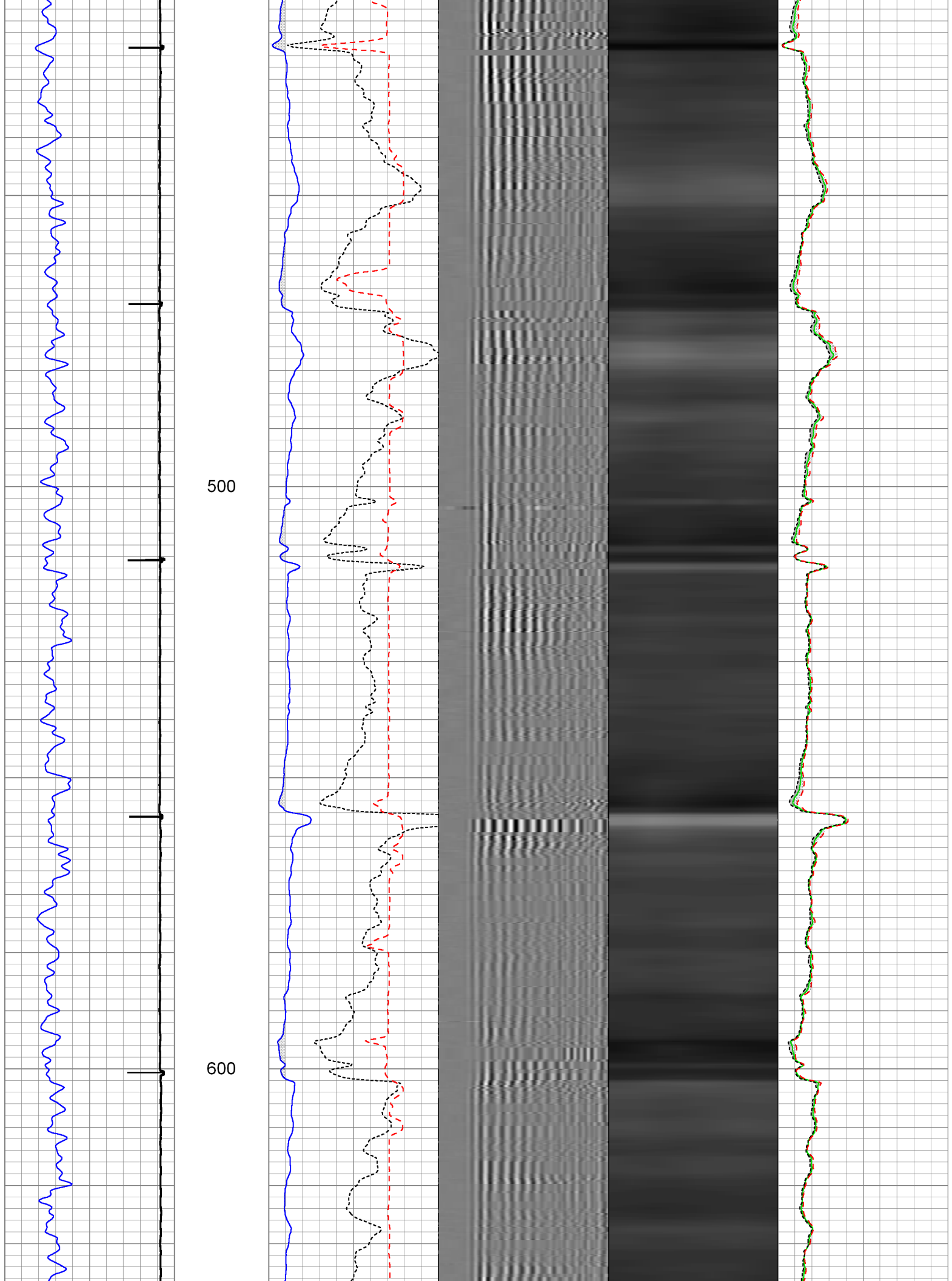


200

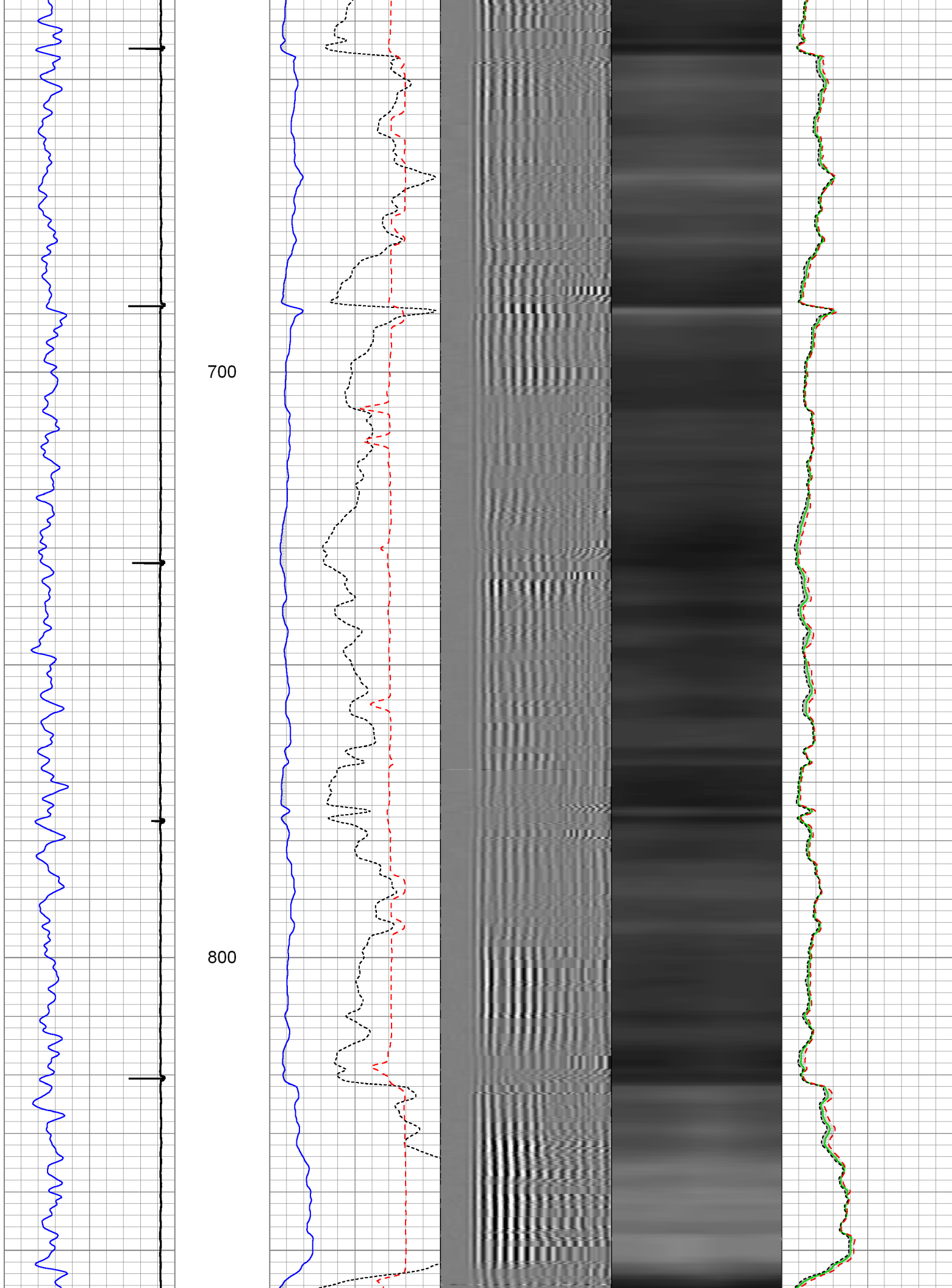
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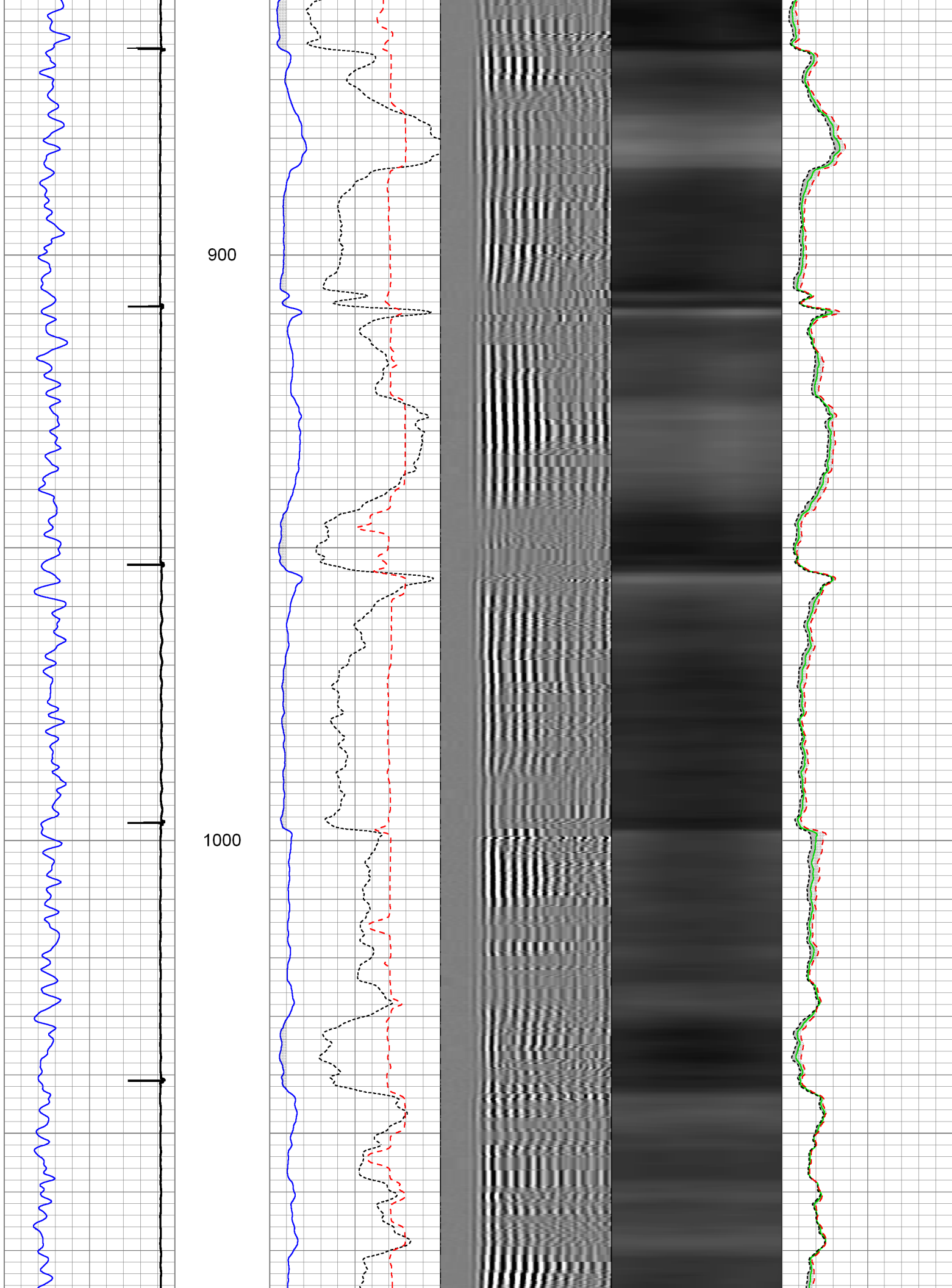
400





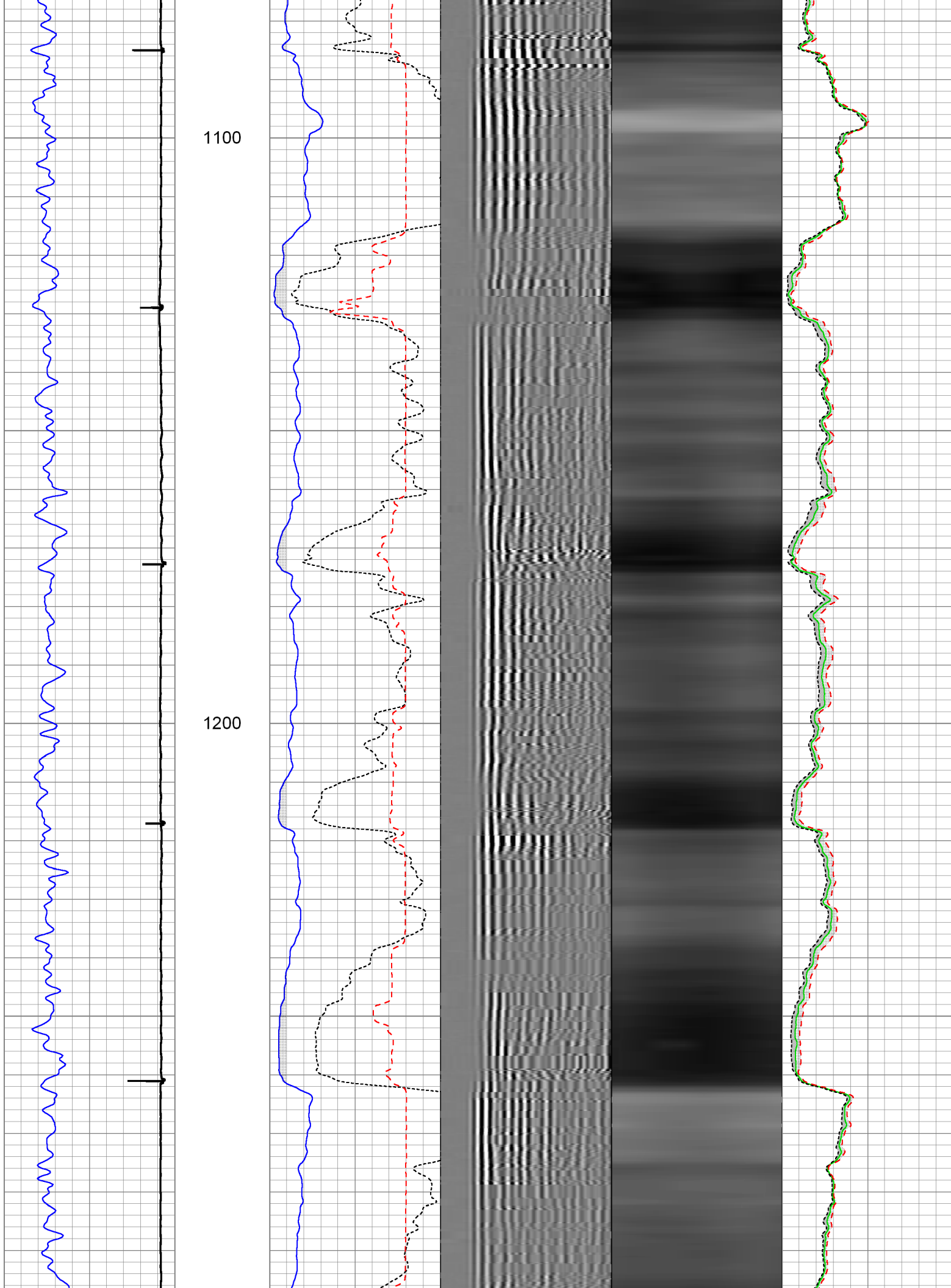






1100

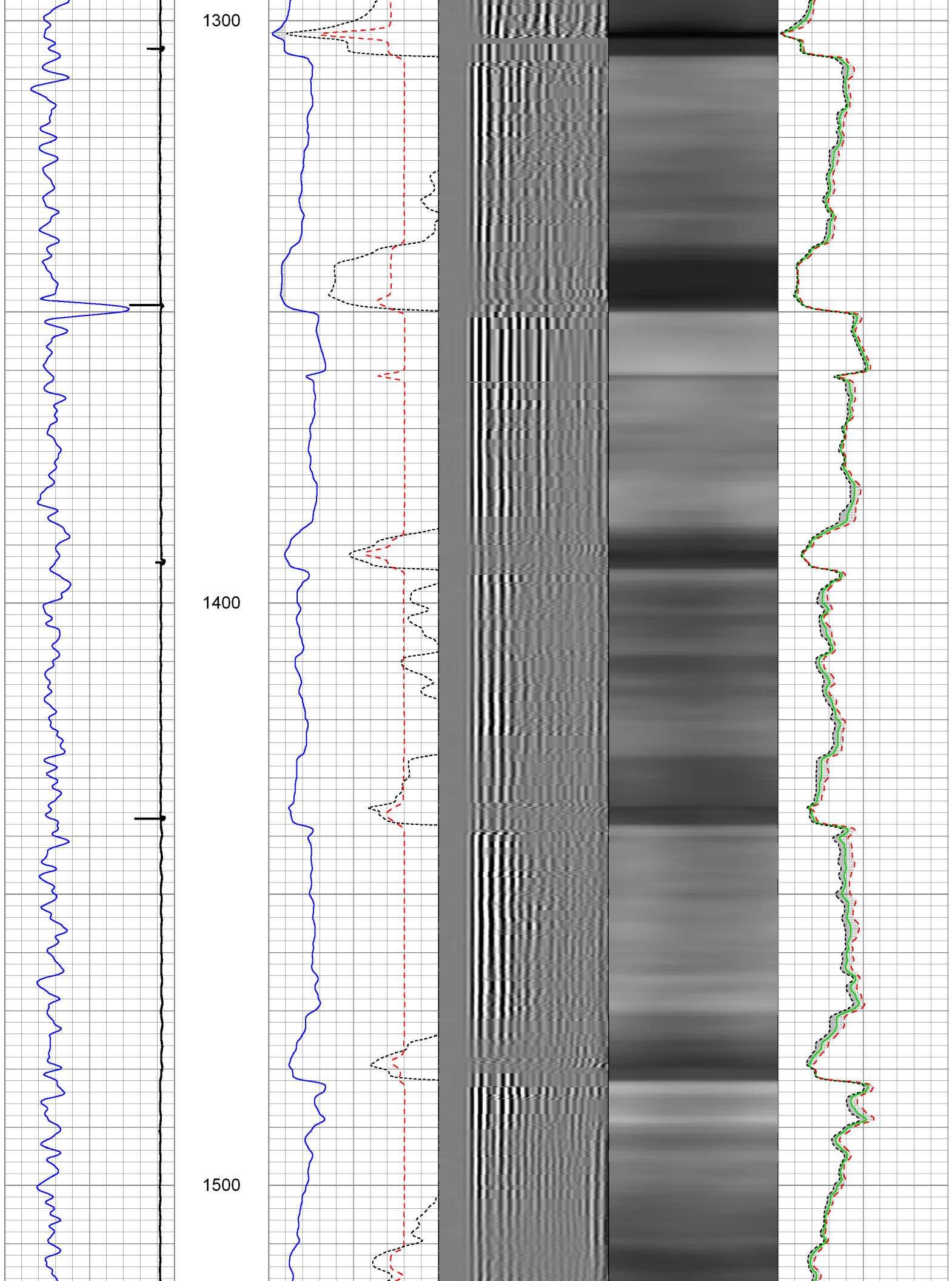
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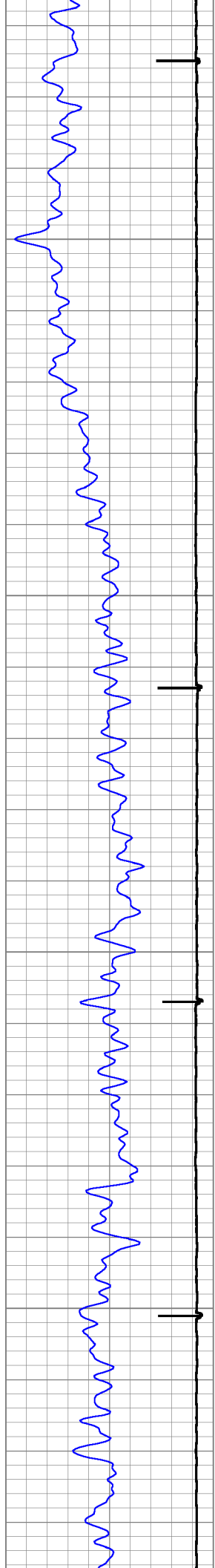


1300

1400

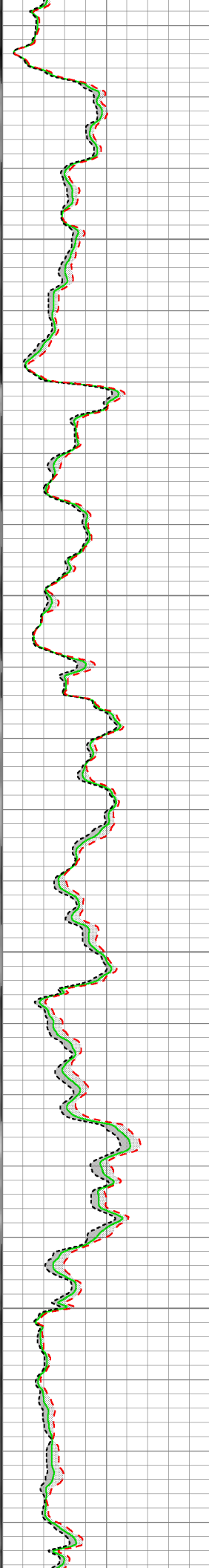
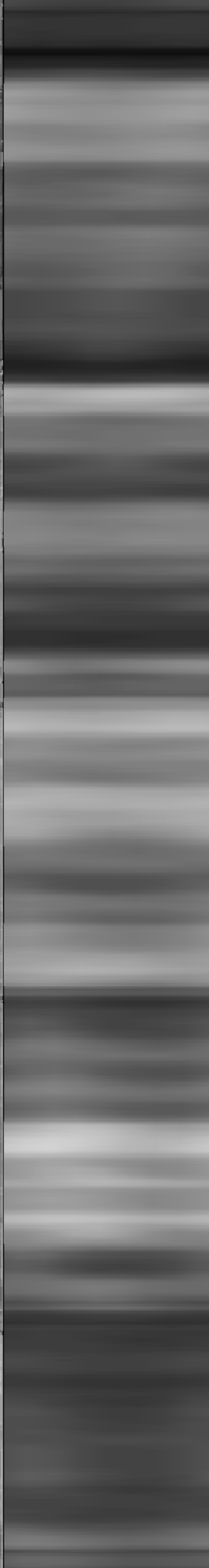
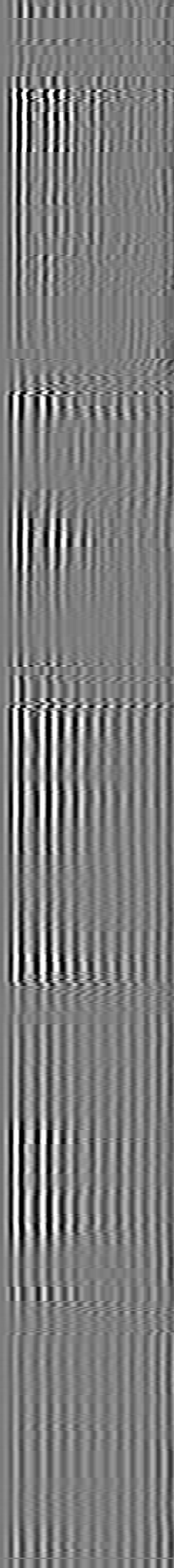
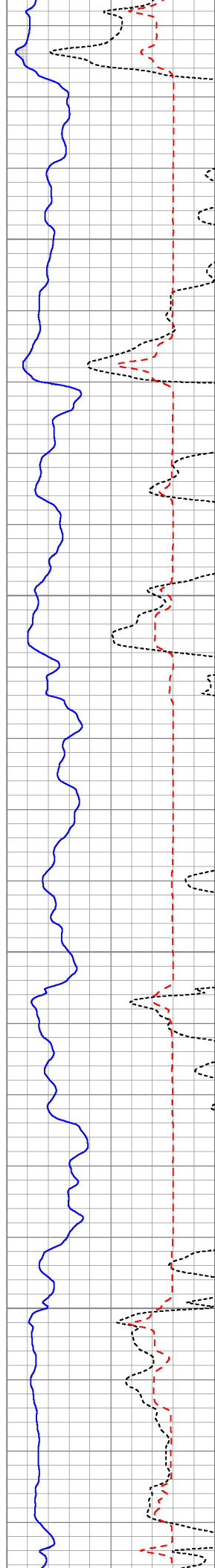
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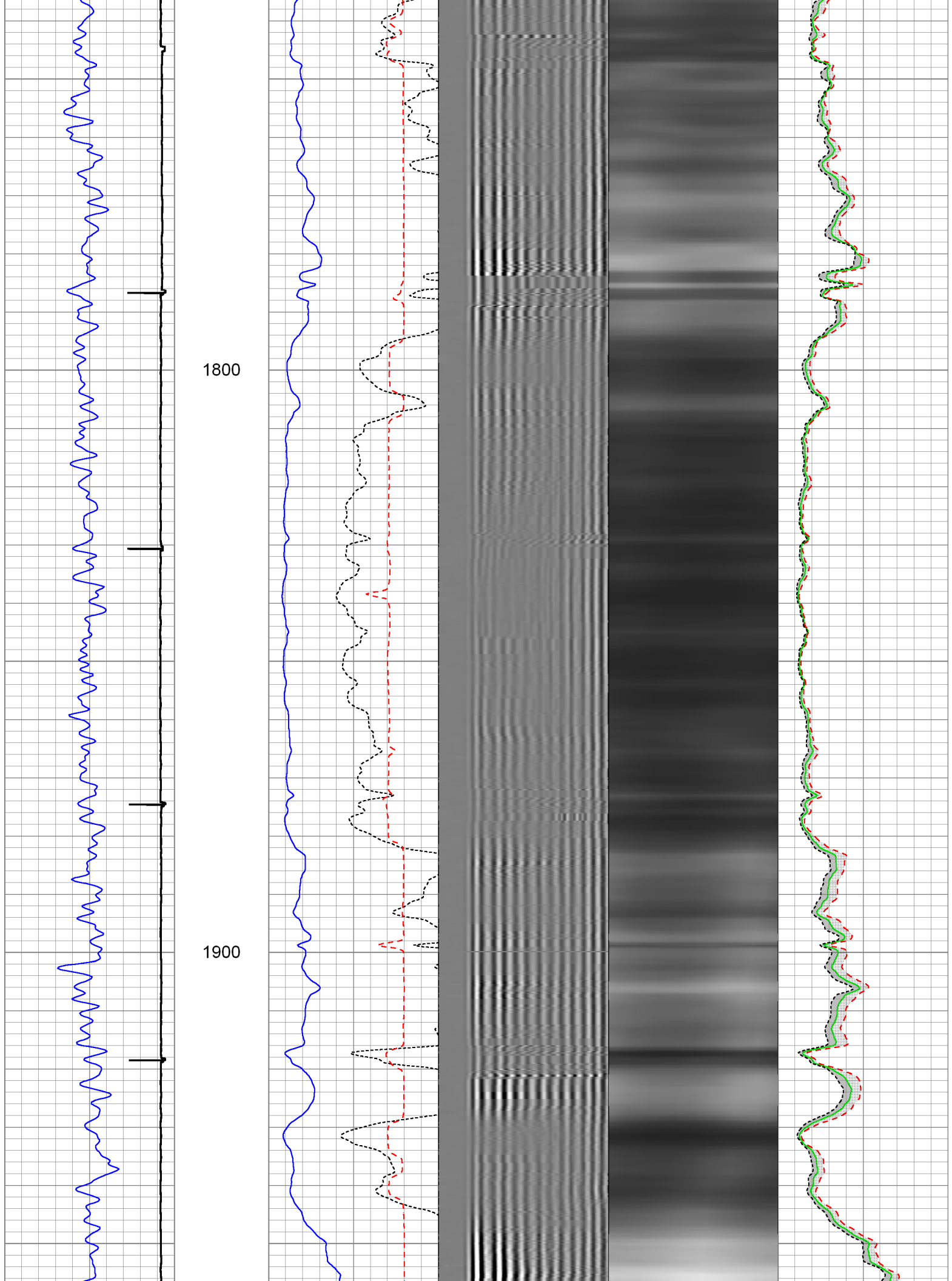




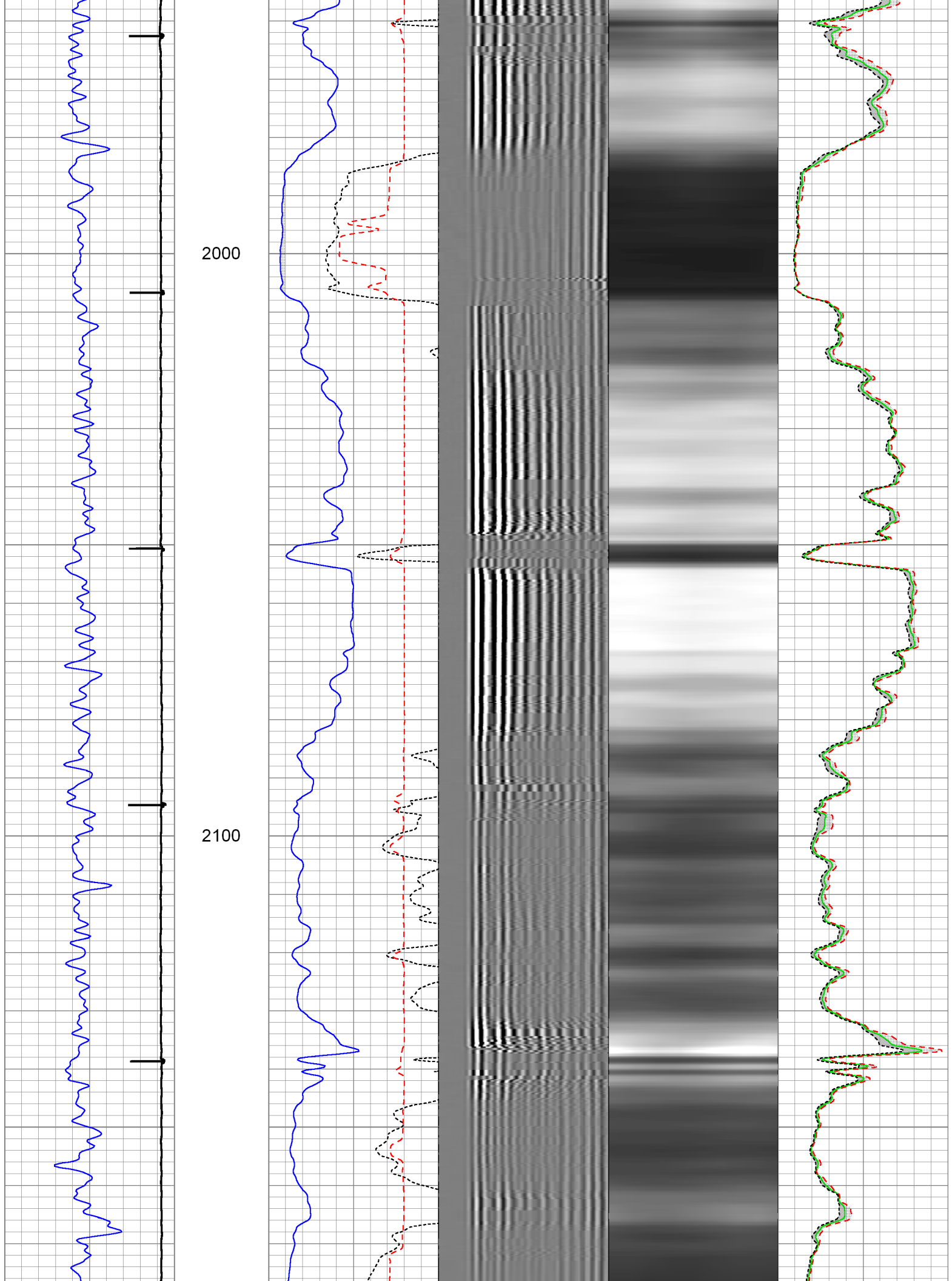
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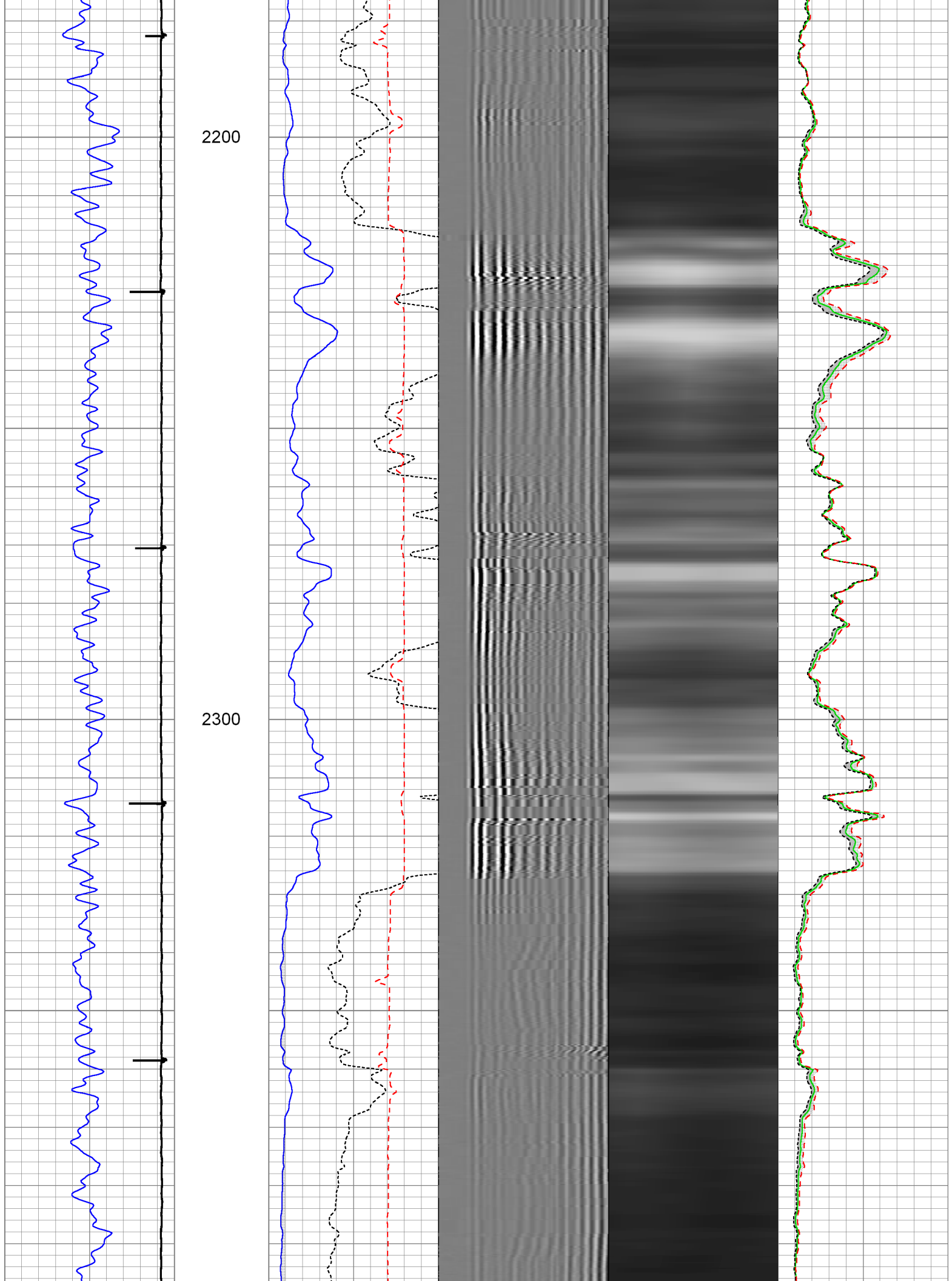
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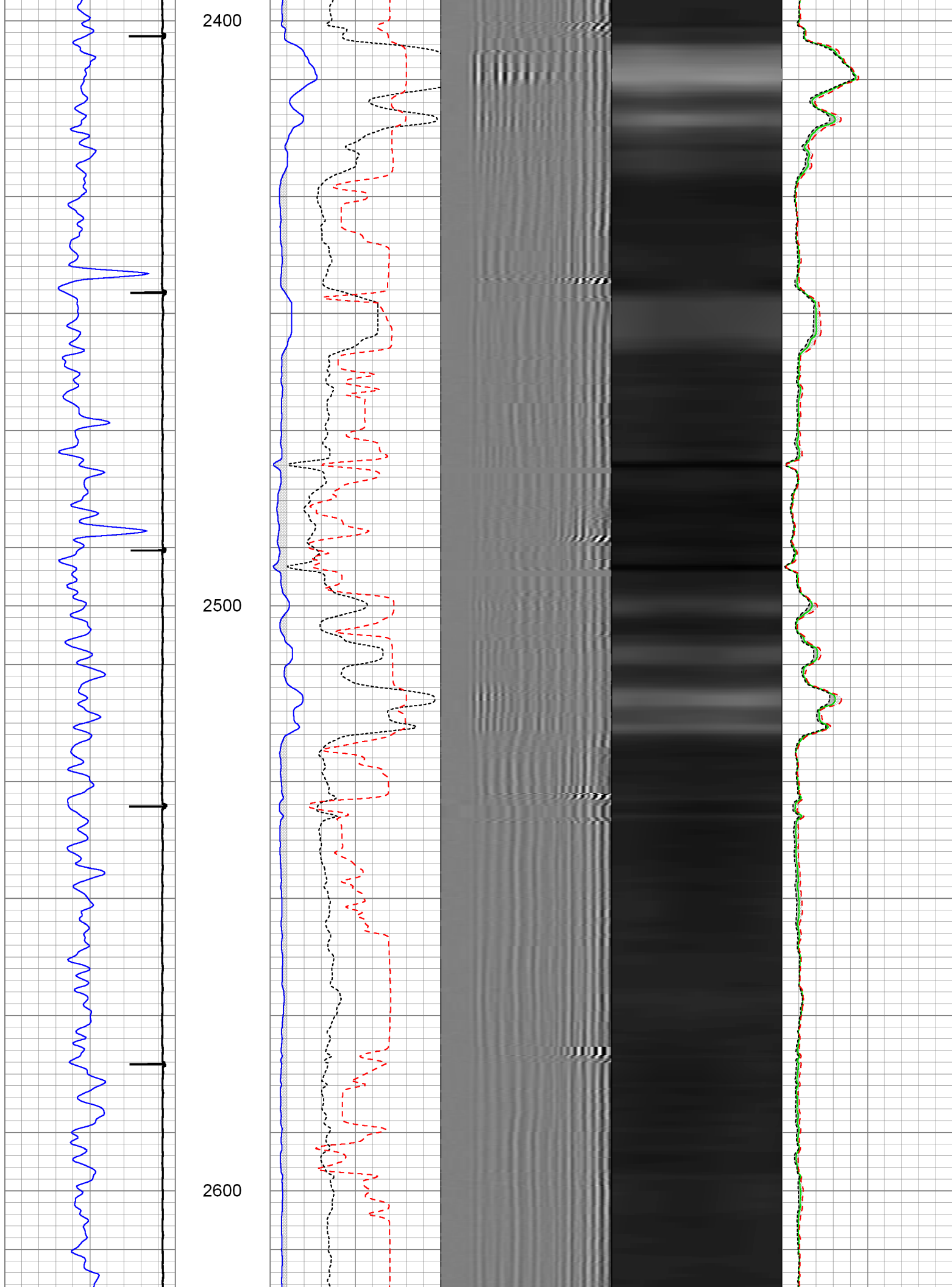


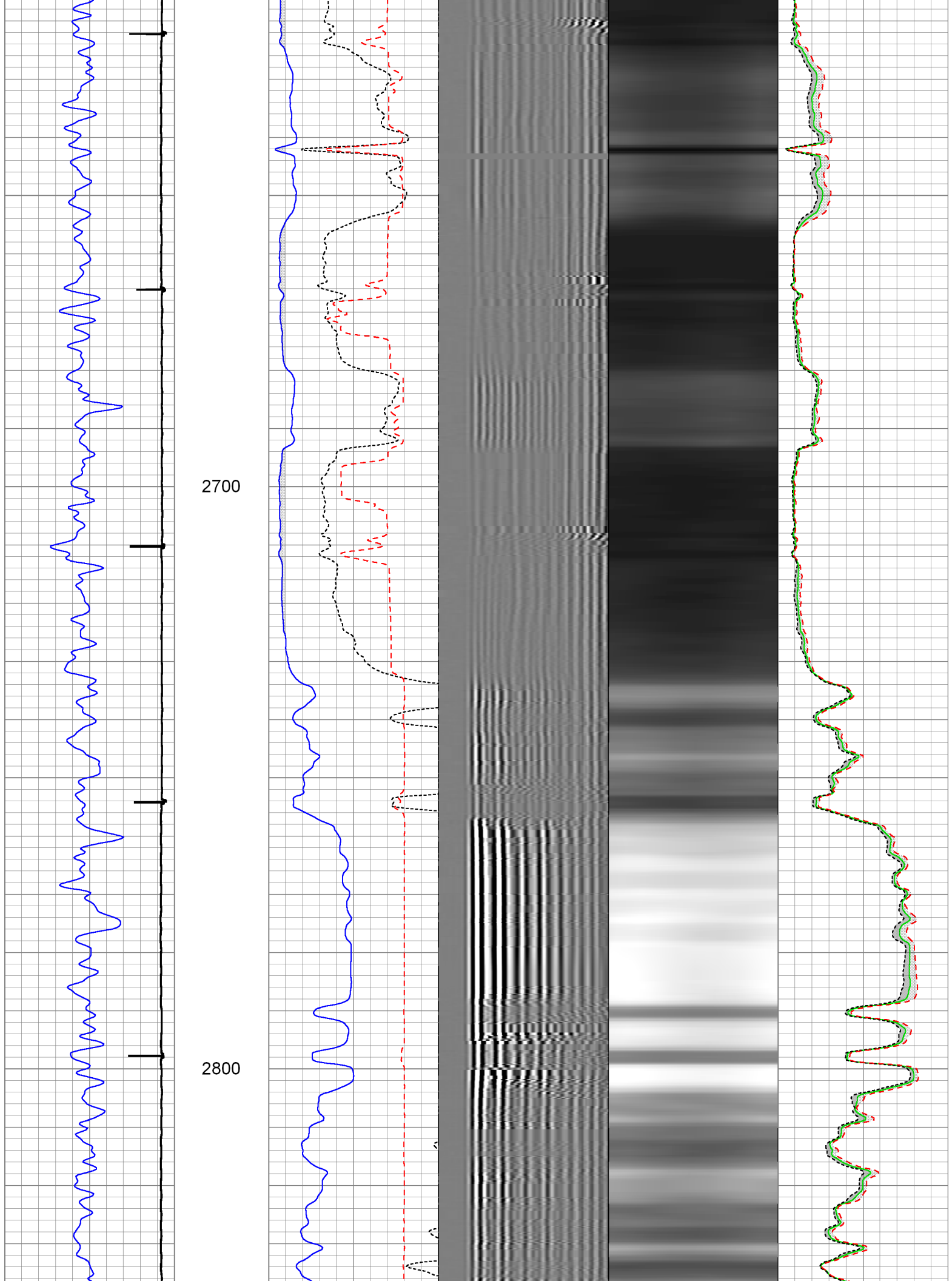


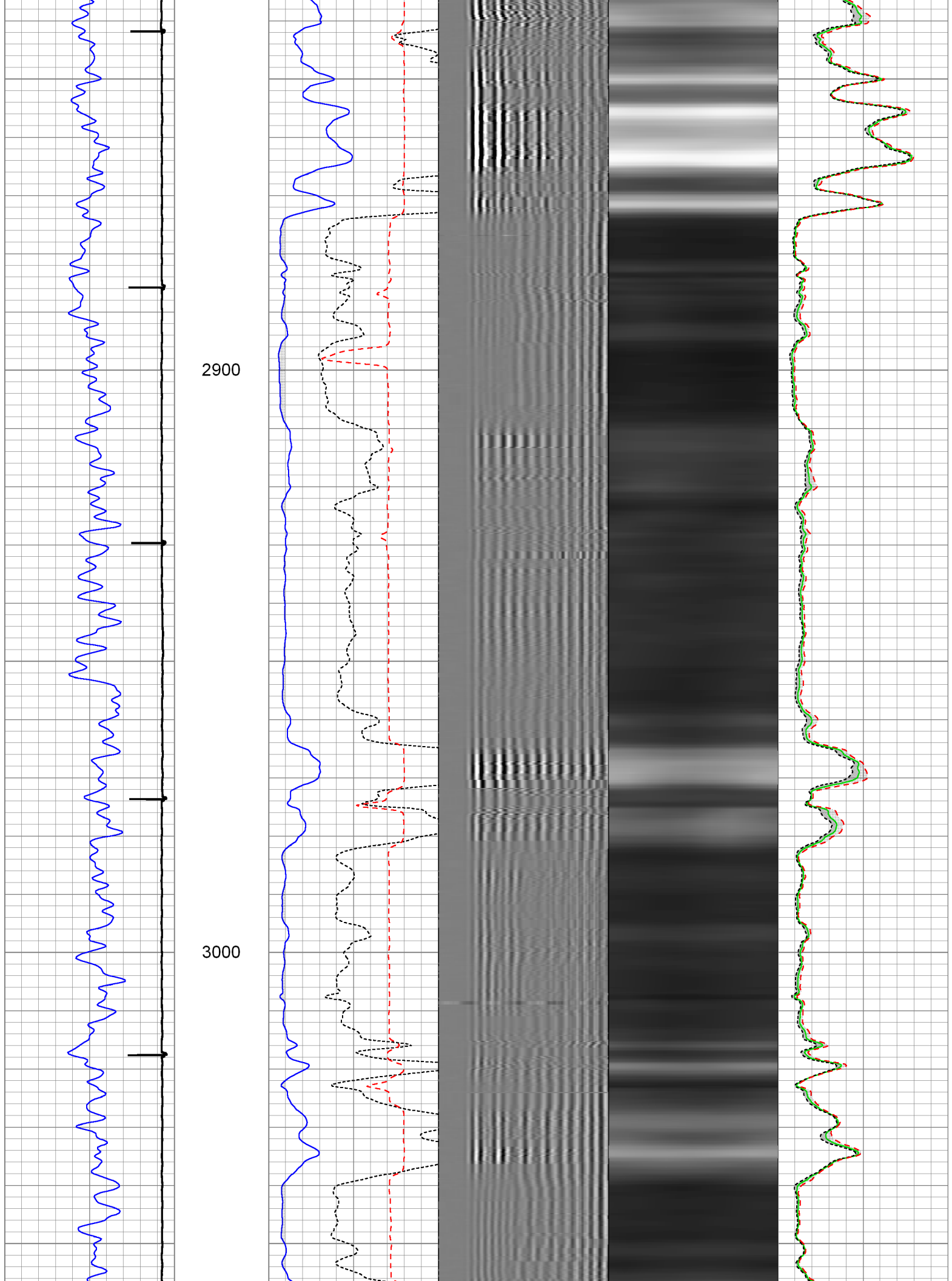
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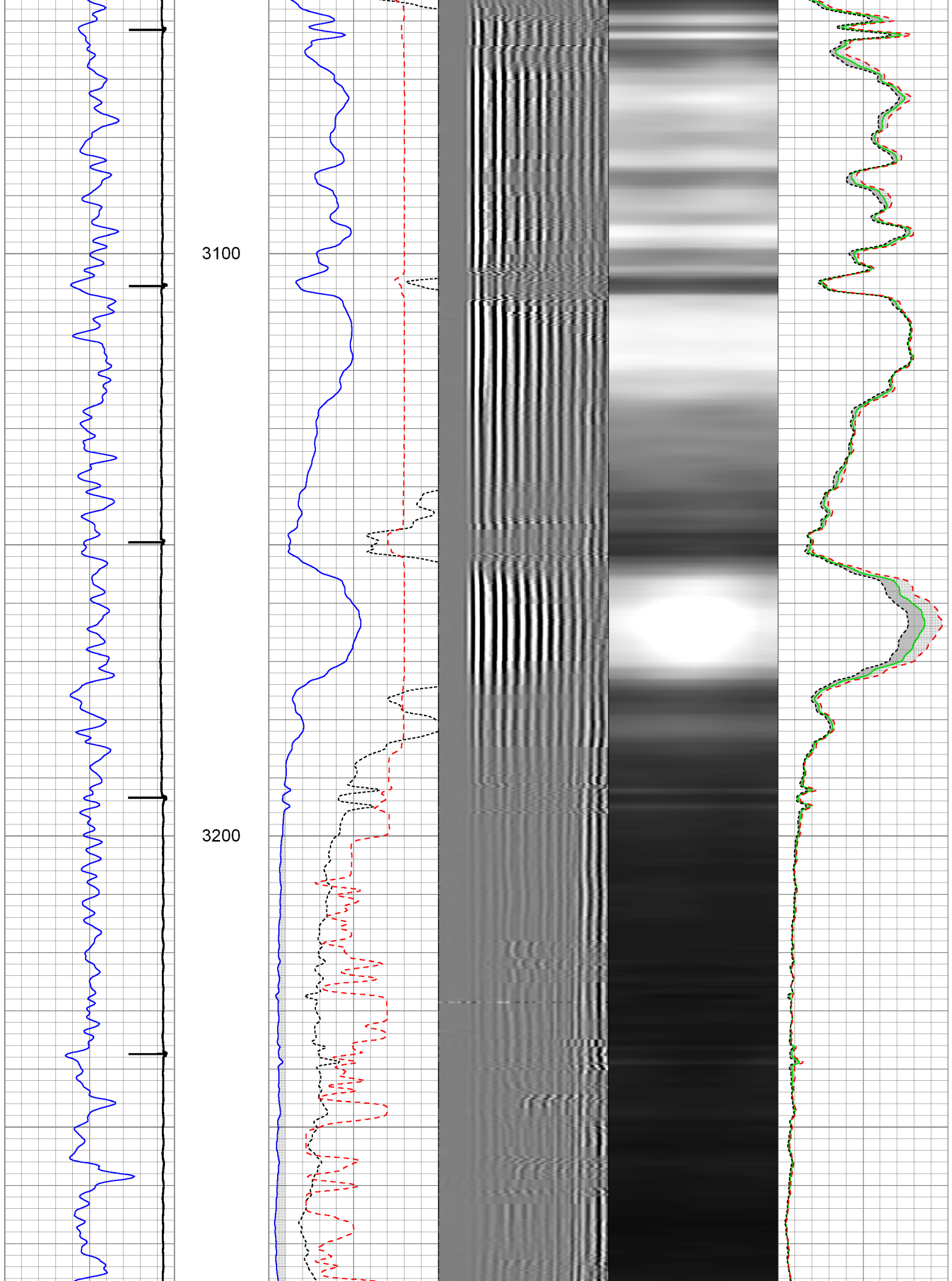
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2600





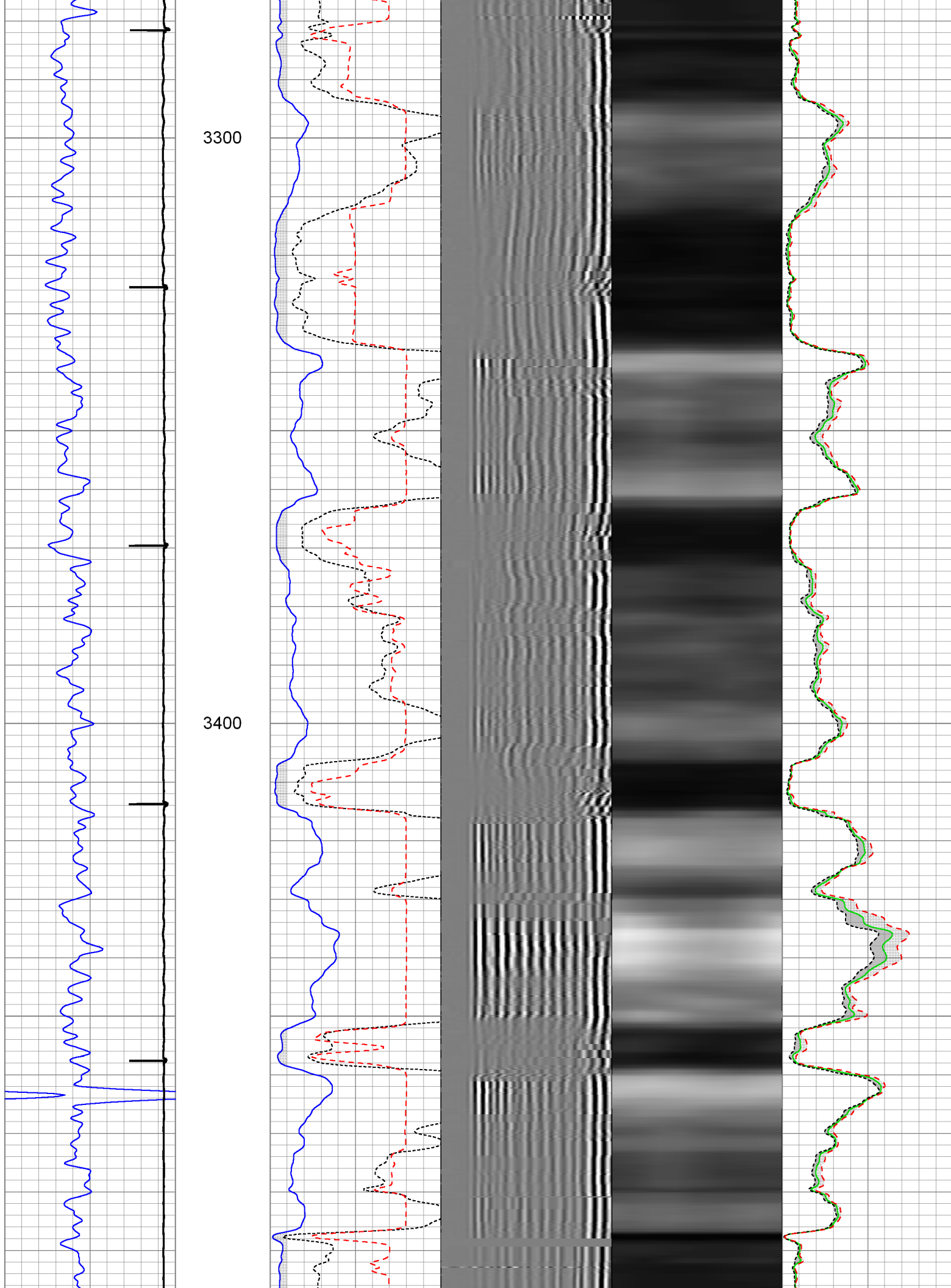


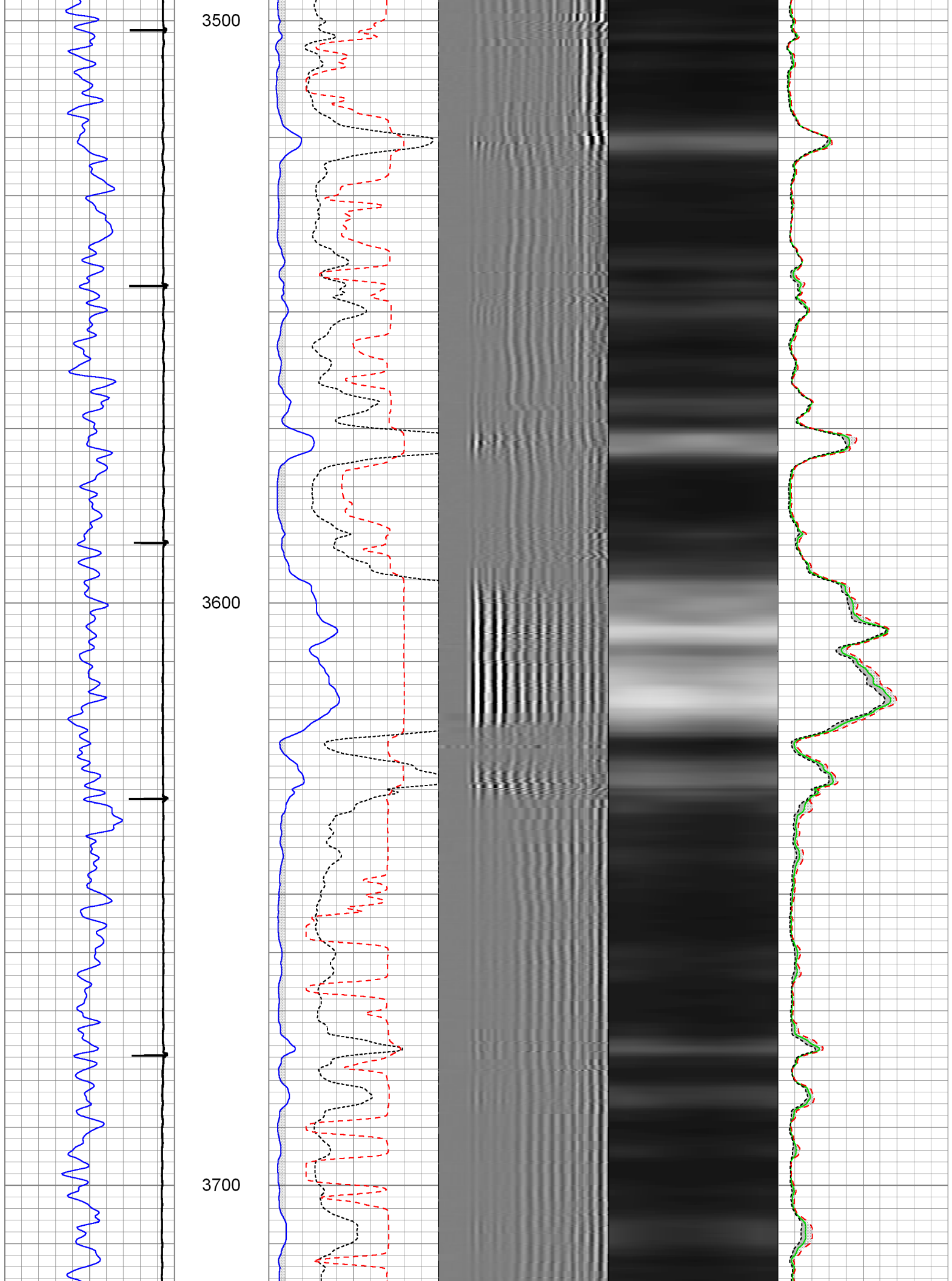


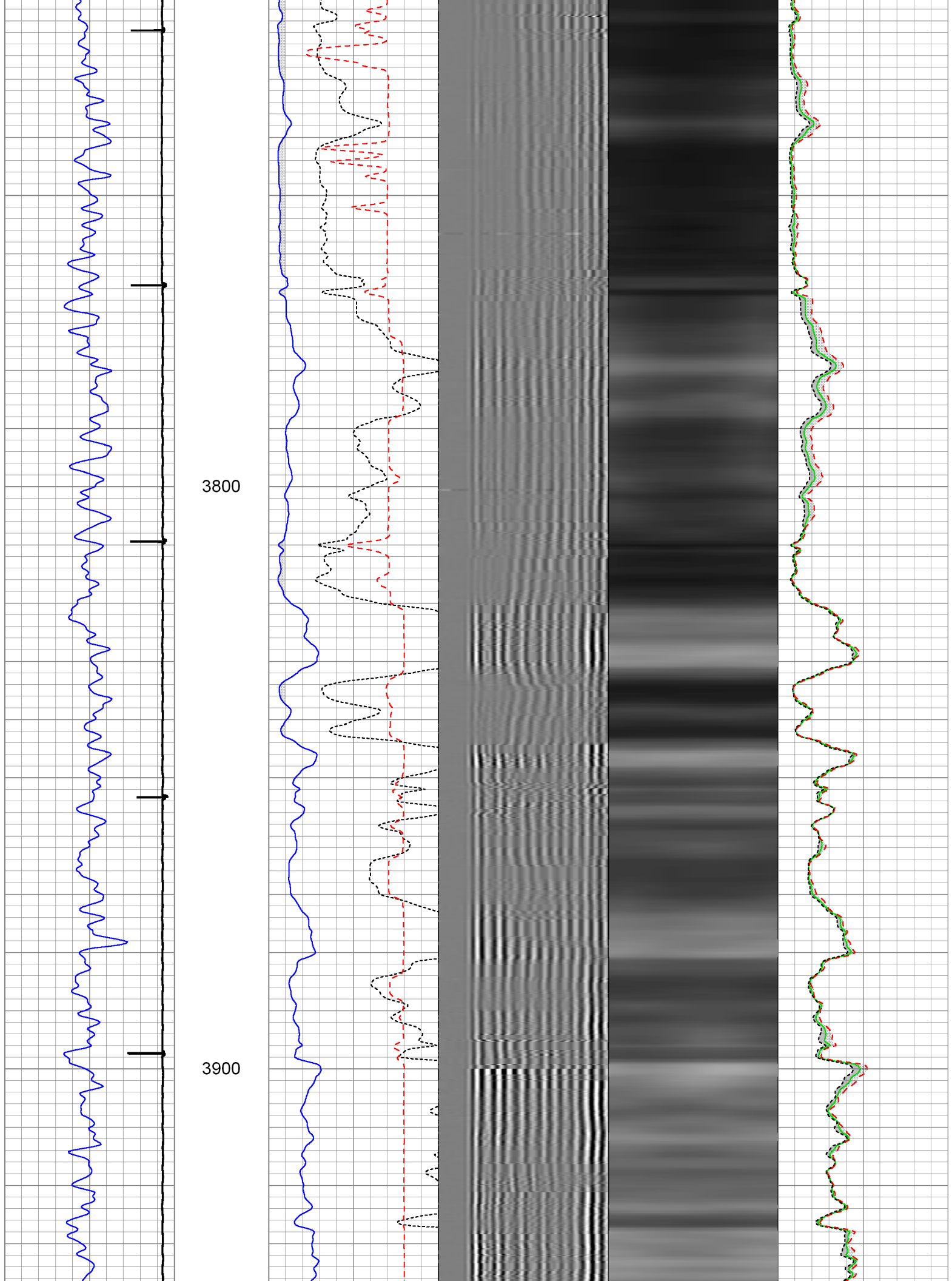


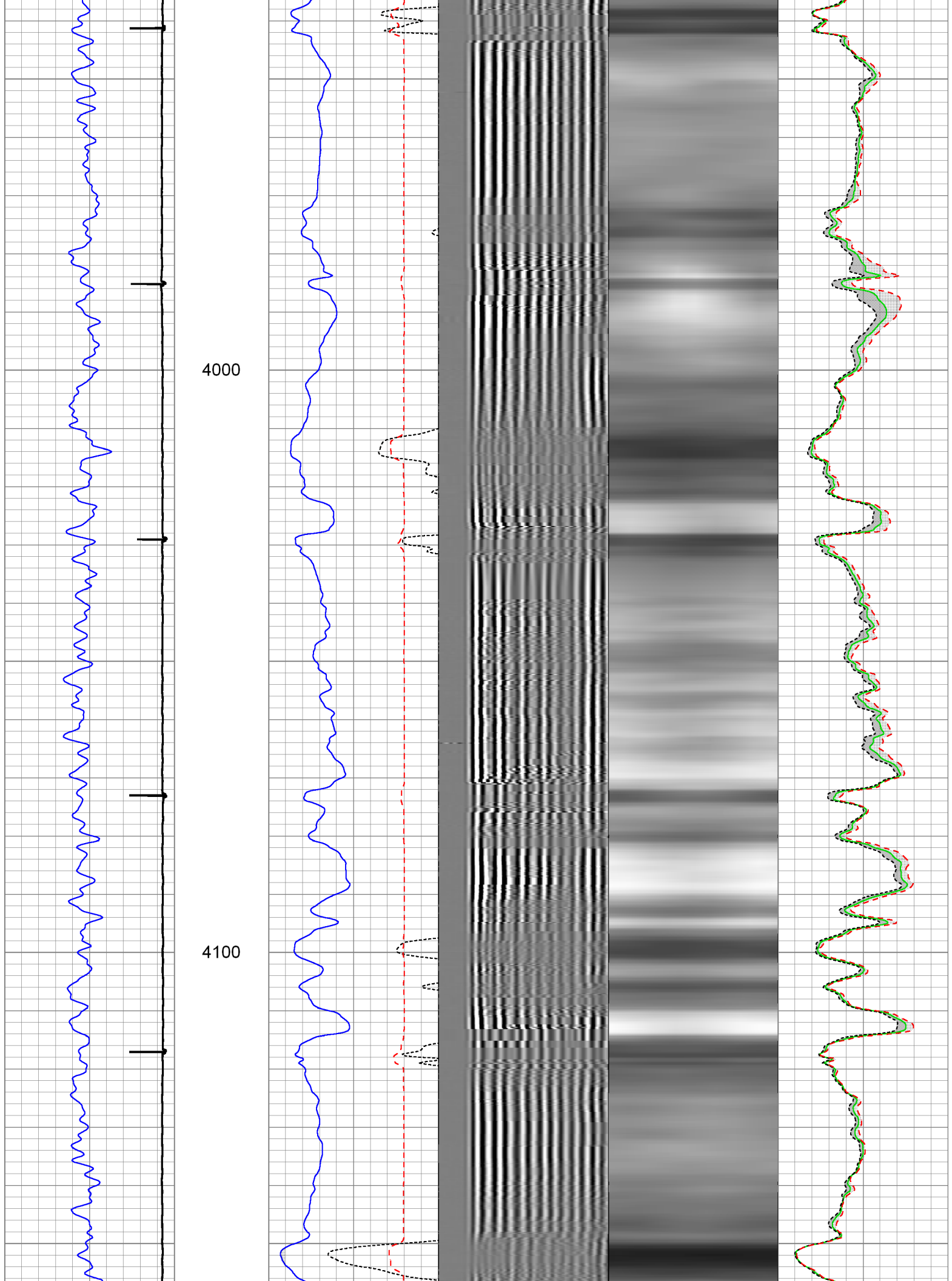
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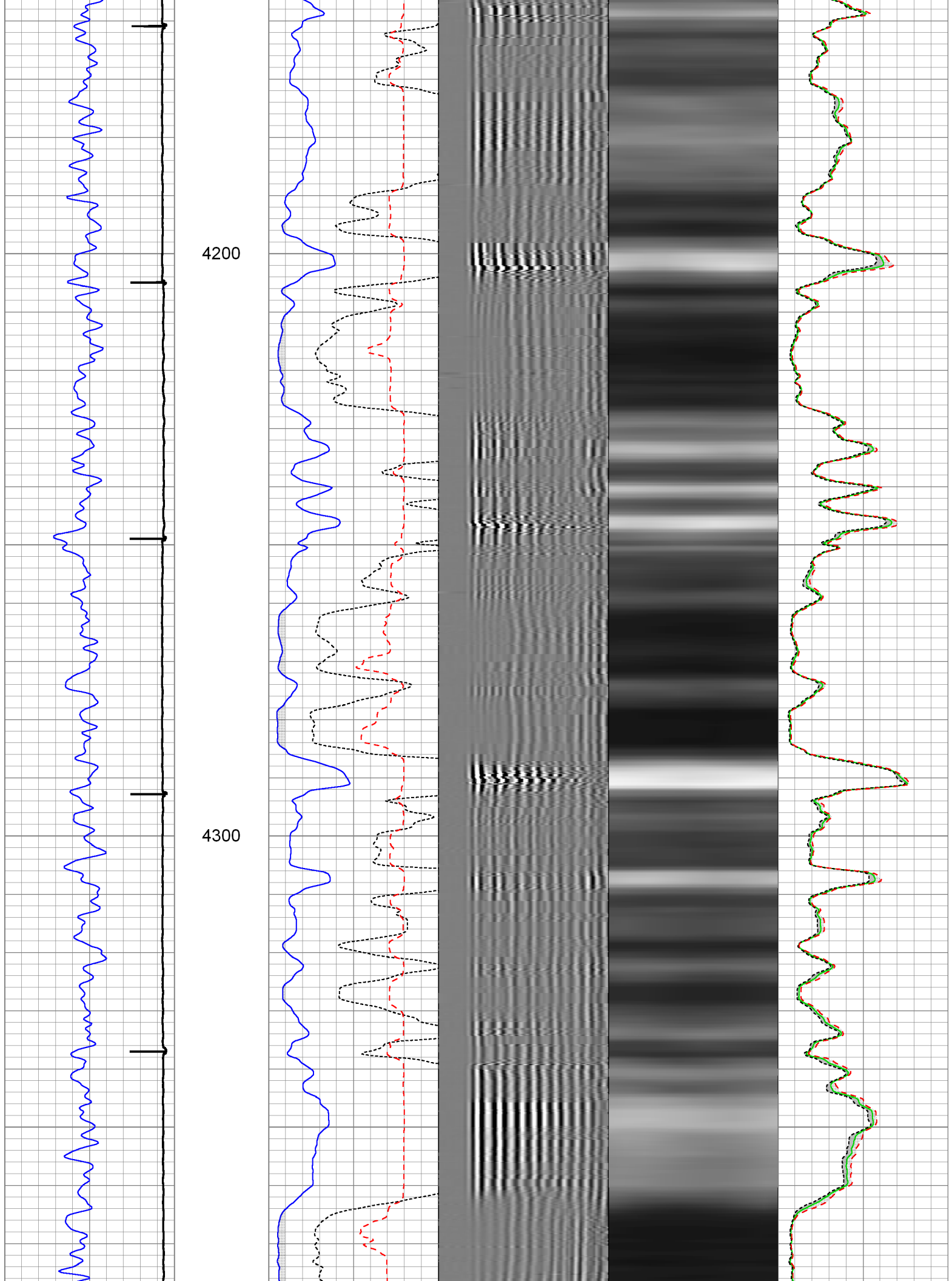
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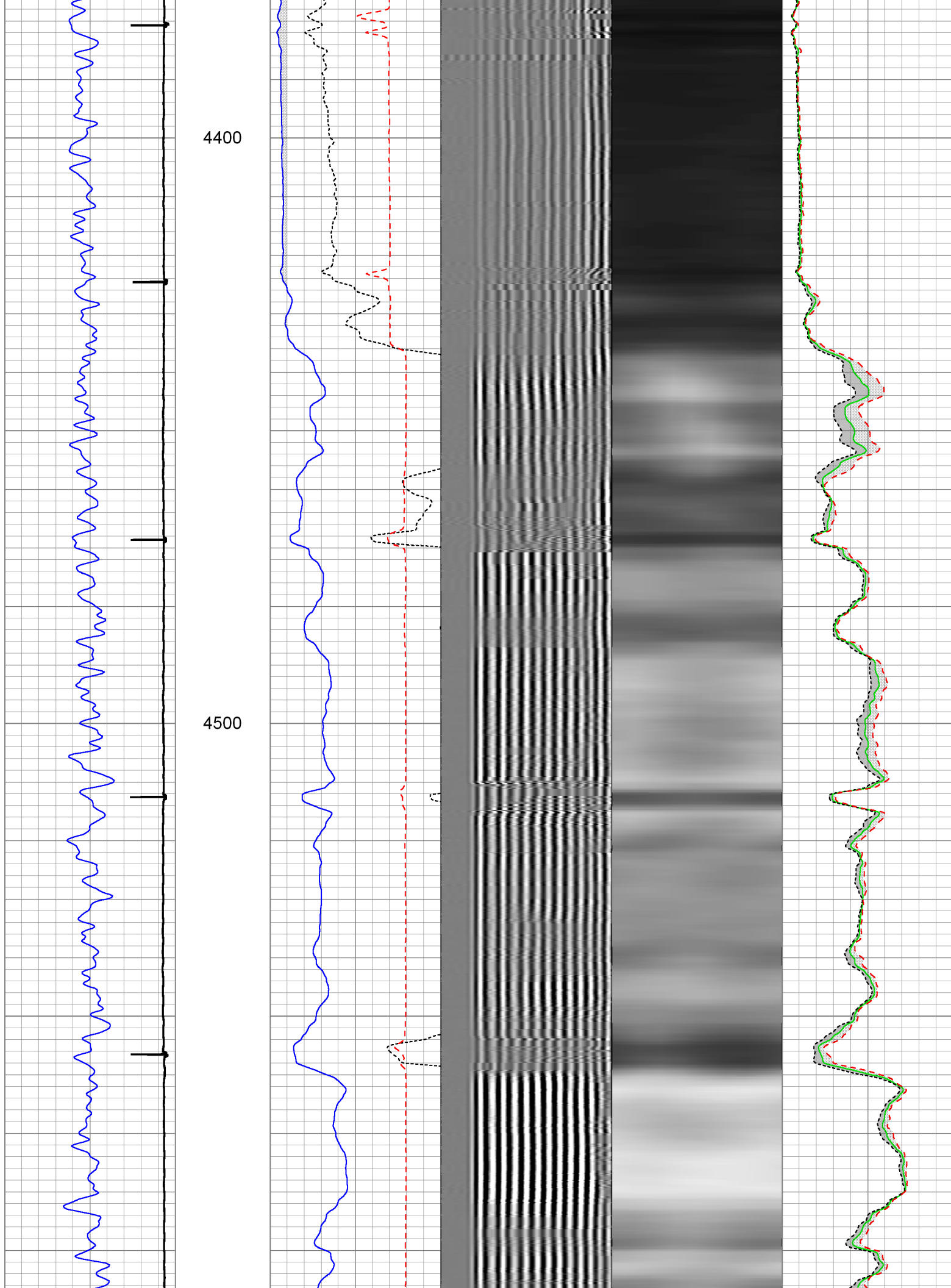






4400

4500

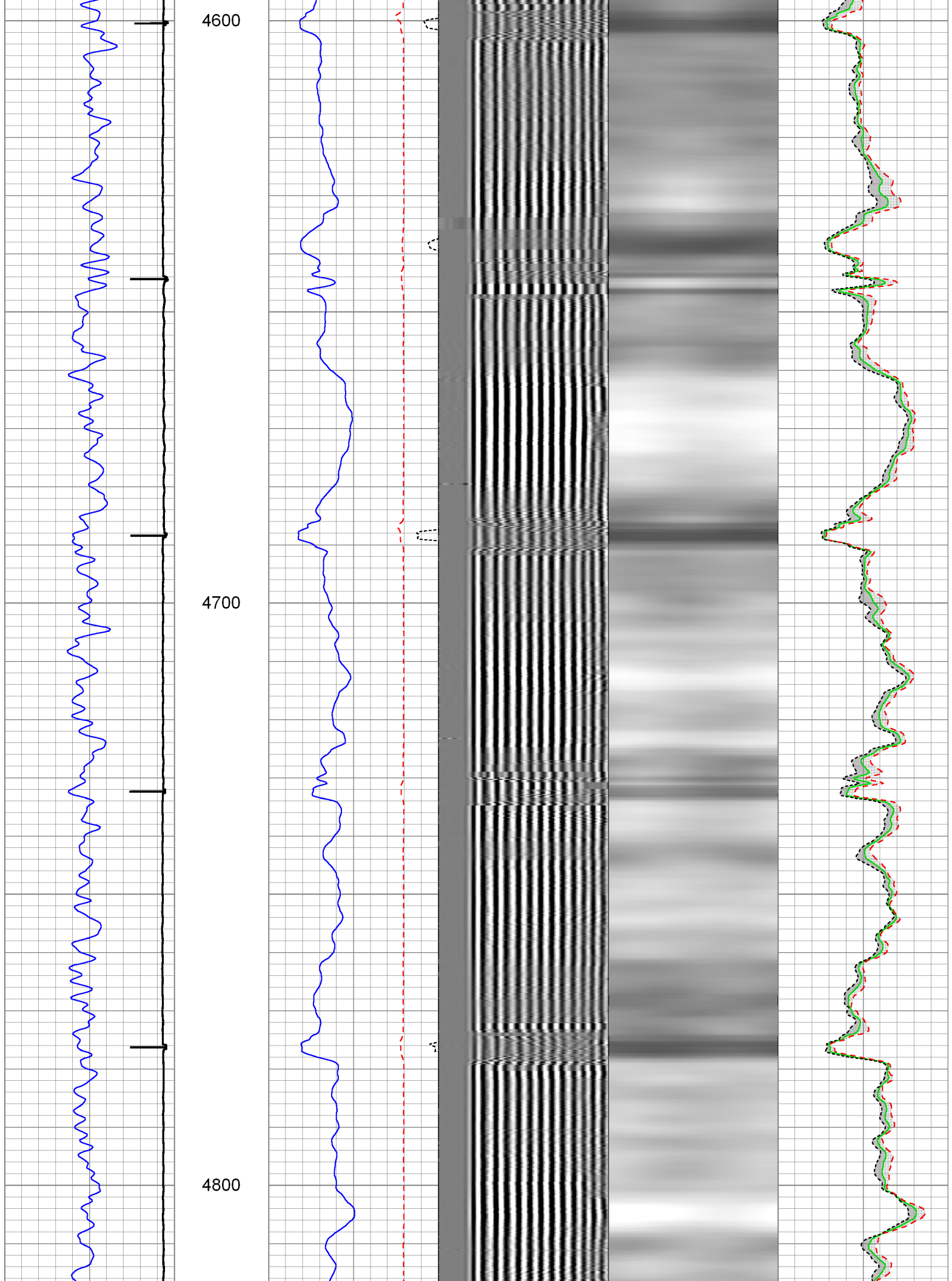


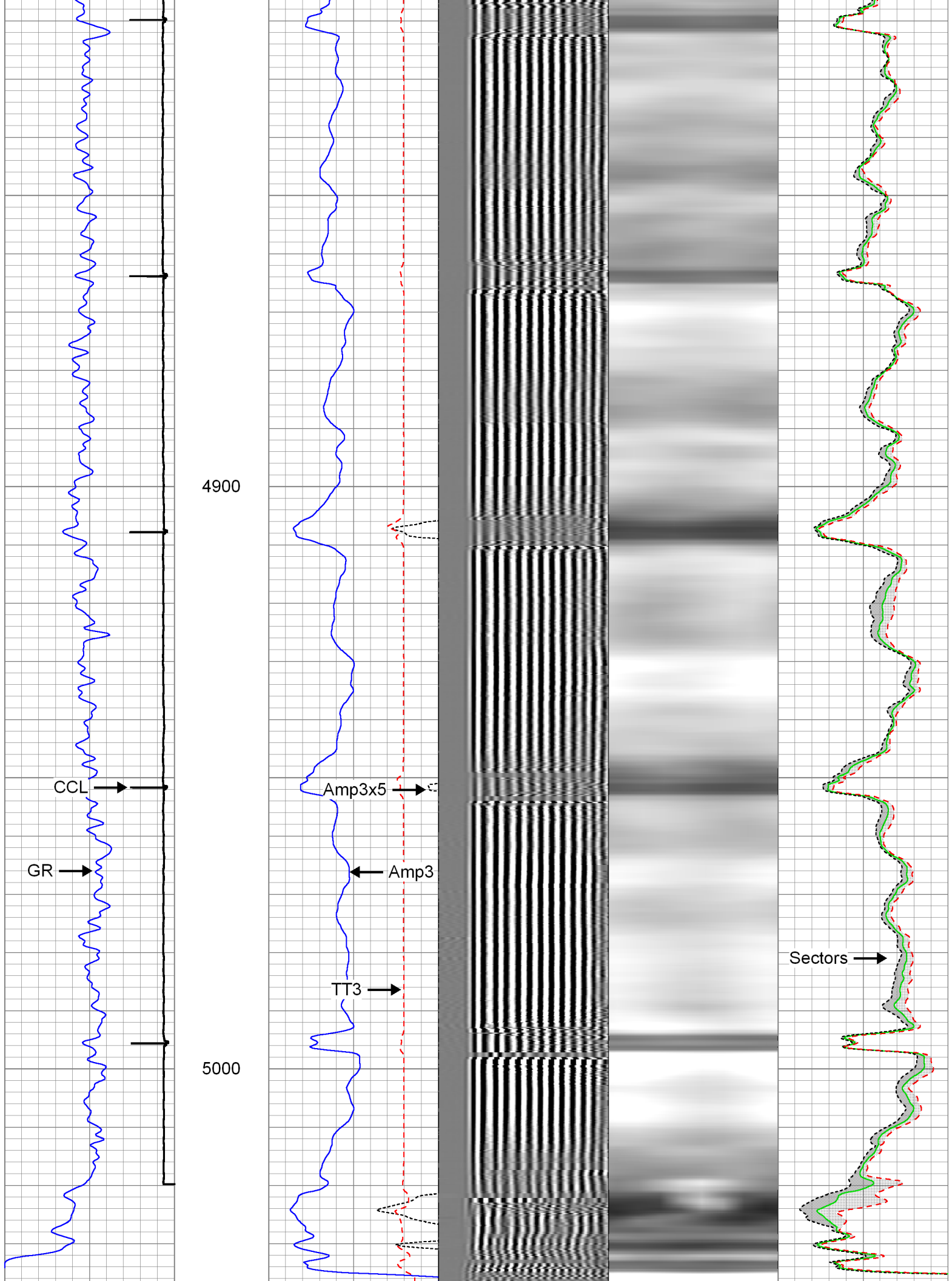


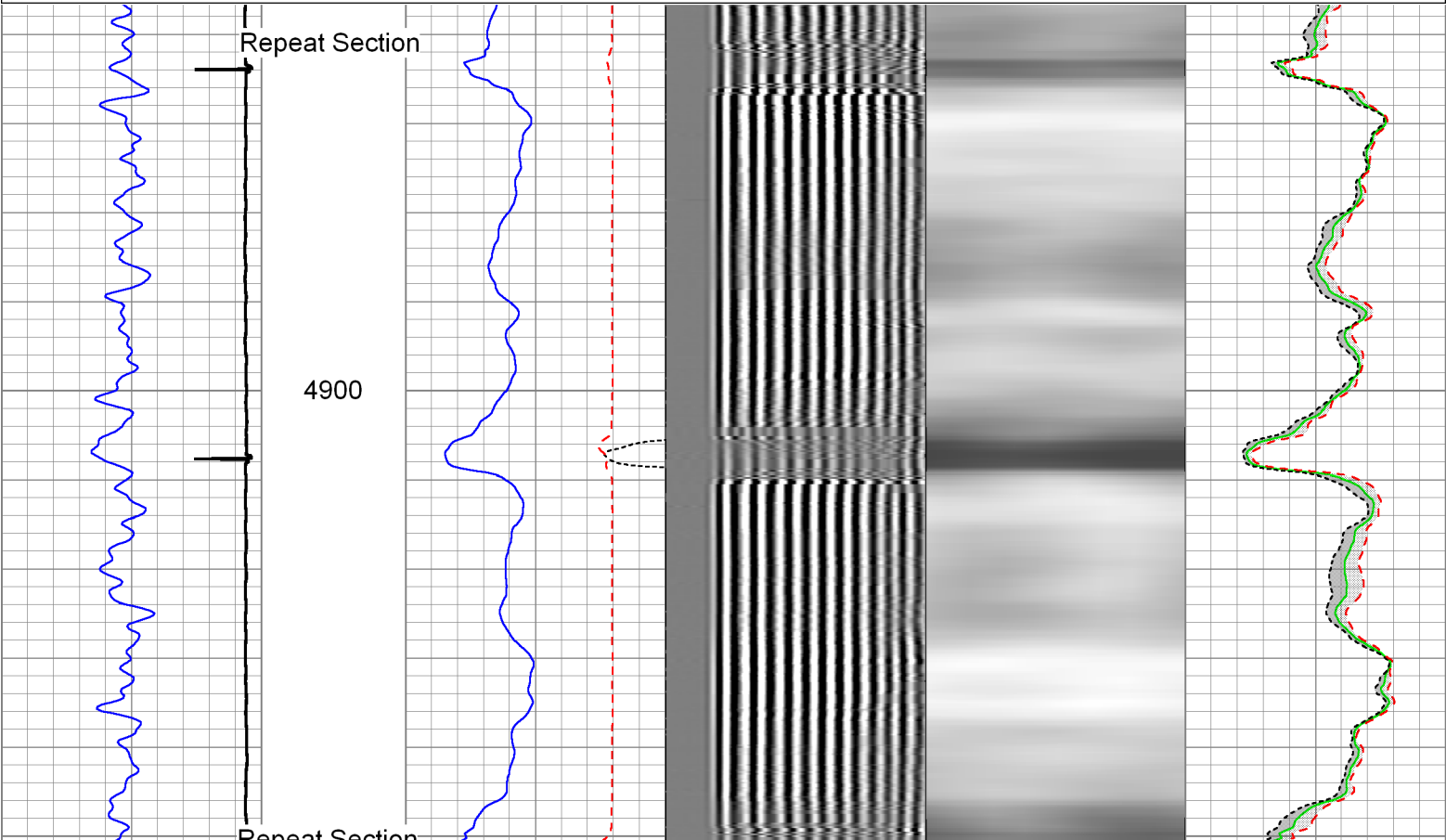
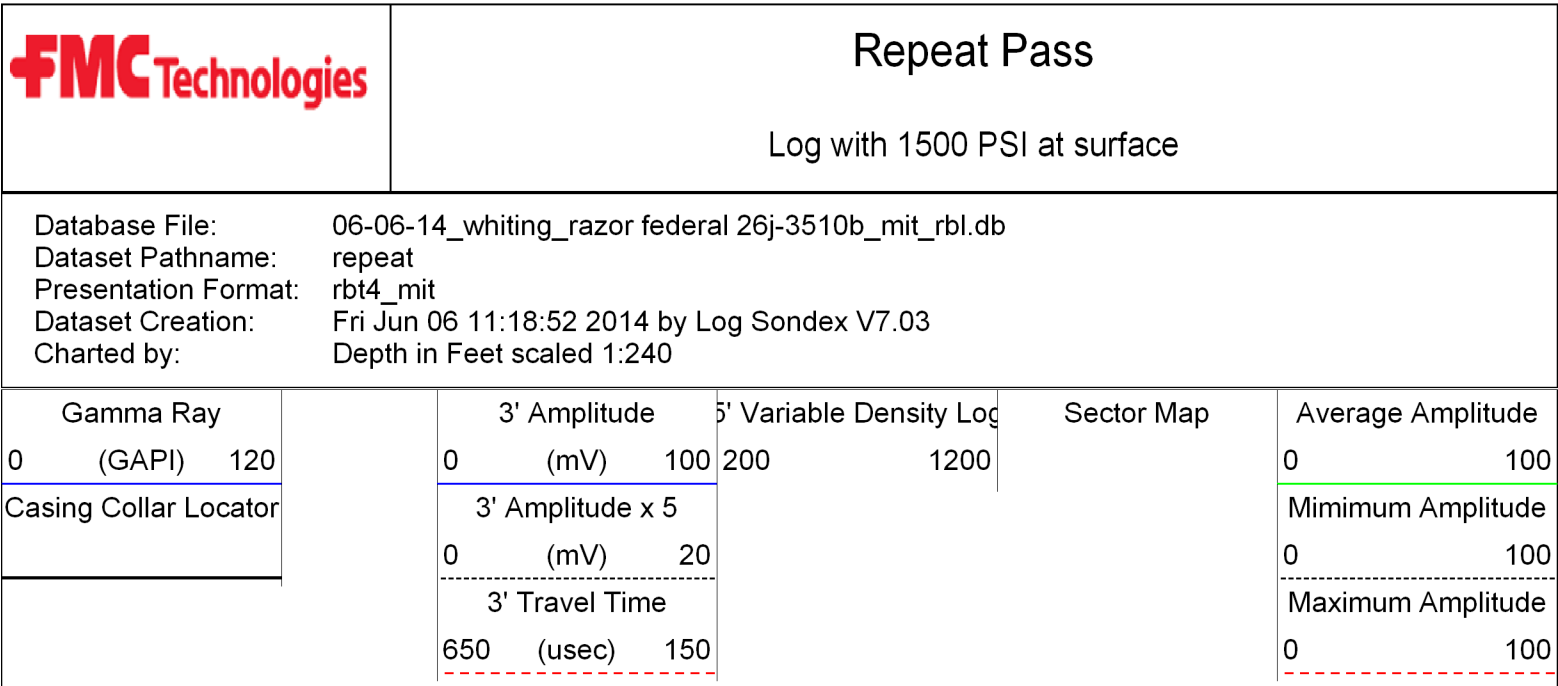
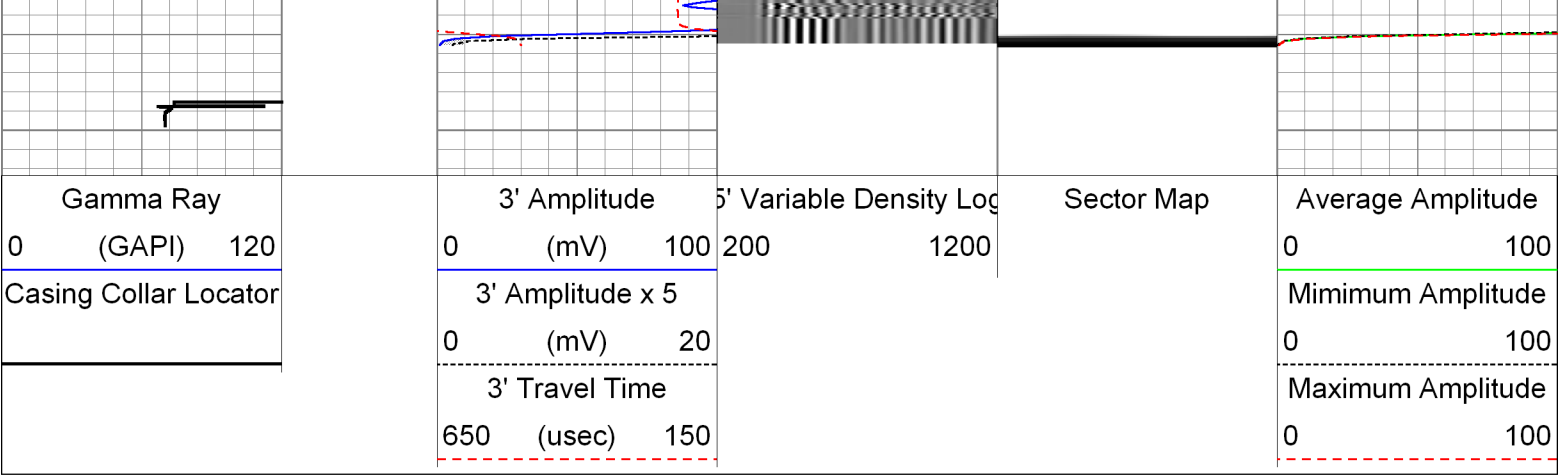
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4700


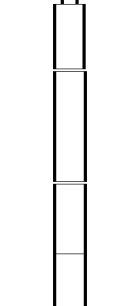

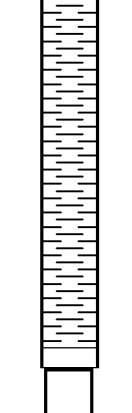

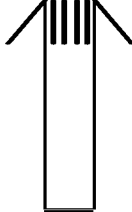


4800









GR	22.37			CHD-AES (000001) Cable Head	1.04	1.69	2.00
				XTU-001 (000001) Crossover Ultrawire Toolbus to Ultralink	1.58	1.69	6.50
				PGR-020 (000001) Production Gamma Ray	1.93	1.69	9.50
				PRC-RAC.20 (20081) Roller Arm Centralizer (5 Arm)	2.55	2.75	32.00
WVF3FT	14.99			RBT-004 (1066) Radial Bond Tool (UW 3 1/8)	9.47	3.13	140.00
WVFS1	14.99						
WVFS2	14.99						
WVFS3	14.99						
WVFS4	14.99						
WVFS5	14.99						
WVFS6	14.99						
WVFS7	14.99						
WVFS8	14.99						
CBLTEMP	14.99						
CBLROT	14.99						
WVF5FT	13.99						
MIT	5.11			PRC-RAC.20 (20082) Roller Arm Centralizer (5 Arm)	2.55	2.75	32.00
				MIT-027 (10014703) Multifinger Imaging Tool (UW 40F)	4.54	2.75	61.10
				PRC-RAC.20 (20080) Roller Arm Centralizer (5 Arm)	2.55	2.75	32.00
TSTAMP	0.00			BUL-006 (000002) Bullnose Terminator	0.22	1.69	1.20

# Calibration Report

Database File: 06-06-14\_Whiting\_Razor Federal 26J-3510B\_MIT\_RBL.db  
 Dataset Pathname: post\_cal  
 Dataset Creation: Fri Jun 06 13:19:32 2014 by Log Sondex V7.03

## Multi-finger Imaging Tool Calibration Report

Serial Number: 10014703  
 Number of Fingers: 40  
 Tool Model: 027

## Inclinometer Calibration Report

Performed: Fri Sep 20 11:47:48 2013  
 Calibration Angle: 45

	Inc X	Inc Y
Vertical:	1963	1960
Finger 1 up:	1748	1727
Finger 31 up:	2195	1742
Finger 21 up:	2178	2188
Finger 11 up:	1727	2173
Sensitivity ratio:	1.00706	
X-axis angle:	132.825	
Deviation const.:	317.775	

## Finger Calibration Report

Performed: Fri Jun 06 10:35:14 2014

Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1068	402.0	1470	387.0	1857	399.0	2256
Finger 02:	1020	403.0	1423	403.0	1826	419.0	2245
Finger 03:	1019	393.0	1412	391.0	1803	412.0	2215
Finger 04:	975	400.0	1375	412.0	1787	434.0	2221
Finger 05:	1013	384.0	1397	385.0	1782	401.0	2183
Finger 06:	1006	393.0	1399	399.0	1798	419.0	2217
Finger 07:	1018	391.0	1409	392.0	1801	409.0	2210
Finger 08:	979	389.0	1368	405.0	1773	427.0	2200
Finger 09:	1036	393.0	1429	392.0	1821	402.0	2223
Finger 10:	1009	388.0	1397	395.0	1792	408.0	2200
Finger 11:	983	384.0	1367	398.0	1765	415.0	2180
Finger 12:	1061	385.0	1446	379.0	1825	380.0	2205
Finger 13:	998	377.0	1375	393.0	1768	413.0	2181
Finger 14:	983	395.0	1378	406.0	1784	425.0	2209
Finger 15:	957	392.0	1349	406.0	1755	431.0	2186
Finger 16:	997	387.0	1384	395.0	1779	417.0	2196
Finger 17:	1026	381.0	1407	383.0	1790	401.0	2191
Finger 18:	1050	384.0	1434	383.0	1817	399.0	2216
Finger 19:	1021	392.0	1413	392.0	1805	410.0	2215
Finger 20:	943	391.0	1334	400.0	1734	424.0	2158
Finger 21:	1029	386.0	1415	384.0	1799	407.0	2206
Finger 22:	1008	397.0	1405	393.0	1798	414.0	2212
Finger 23:	1121	377.0	1498	366.0	1864	381.0	2245
Finger 24:	1026	403.0	1429	396.0	1825	416.0	2241
Finger 25:	1031	398.0	1429	394.0	1823	417.0	2240
Finger 26:	1059	401.0	1460	384.0	1844	402.0	2246
Finger 27:	1076	392.0	1468	379.0	1847	403.0	2250
Finger 28:	1036	404.0	1440	394.0	1834	414.0	2248
Finger 29:	1014	410.0	1424	402.0	1826	428.0	2254
Finger 30:	1007	408.0	1415	403.0	1818	425.0	2243
Finger 31:	1068	405.0	1473	385.0	1858	402.0	2260
Finger 32:	1011	407.0	1418	397.0	1815	419.0	2234
Finger 33:	1025	411.0	1436	397.0	1833	419.0	2252
Finger 34:	1011	410.0	1421	403.0	1824	425.0	2249
Finger 35:	1080	399.0	1479	383.0	1862	399.0	2261



Finger 36:	1007	407.0	1414	398.0	1812	420.0	2232
Finger 37:	1120	393.0	1513	373.0	1886	391.0	2277
Finger 38:	1069	398.0	1467	384.0	1851	402.0	2253
Finger 39:	1027	404.0	1431	397.0	1828	418.0	2246
Finger 40:	962	412.0	1374	415.0	1789	441.0	2230

Post Survey Calibration Check								
Performed:					Fri Jun 06 13:18:59 2014			
Ring size: (in)	4	Nom. wear	5	Nom. wear	6	Nom. wear	7	Nom. wear
Finger 01:	4.009	0.005	5.004	0.002	6.000	0.000	7.003	0.001
Finger 02:	4.006	0.003	5.010	0.005	6.018	0.009	7.008	0.004
Finger 03:	4.009	0.005	5.009	0.005	6.006	0.003	7.011	0.005
Finger 04:	4.011	0.006	5.011	0.006	6.008	0.004	7.009	0.004
Finger 05:	4.012	0.006	5.008	0.004	6.007	0.004	7.013	0.006
Finger 06:	4.007	0.003	5.010	0.005	6.009	0.004	7.007	0.003
Finger 07:	4.006	0.003	5.004	0.002	6.001	0.001	7.006	0.003
Finger 08:	4.006	0.003	5.007	0.004	6.008	0.004	7.007	0.003
Finger 09:	4.011	0.005	5.012	0.006	6.012	0.006	7.011	0.006
Finger 10:	4.010	0.005	5.012	0.006	6.007	0.004	7.008	0.004
Finger 11:	4.009	0.004	5.007	0.004	6.001	0.000	7.004	0.002
Finger 12:	4.010	0.005	5.011	0.005	6.003	0.002	7.007	0.004
Finger 13:	4.005	0.003	5.007	0.004	6.003	0.002	7.005	0.003
Finger 14:	4.006	0.003	5.006	0.003	6.003	0.002	7.008	0.004
Finger 15:	4.003	0.002	5.005	0.003	6.005	0.002	7.004	0.002
Finger 16:	4.003	0.001	5.005	0.002	6.006	0.003	7.004	0.002
Finger 17:	4.007	0.004	5.007	0.004	6.007	0.003	7.004	0.002
Finger 18:	4.014	0.007	5.010	0.005	6.007	0.003	7.007	0.003
Finger 19:	4.007	0.004	5.007	0.003	6.006	0.003	7.007	0.003
Finger 20:	4.005	0.003	5.007	0.004	6.009	0.004	7.012	0.006
Finger 21:	4.006	0.003	5.007	0.003	6.007	0.003	7.009	0.005
Finger 22:	4.009	0.004	5.008	0.004	6.006	0.003	7.007	0.003
Finger 23:	4.022	0.011	5.023	0.011	6.013	0.007	7.014	0.007
Finger 24:	4.006	0.003	5.008	0.004	6.007	0.003	7.006	0.003
Finger 25:	4.009	0.004	5.006	0.003	6.005	0.003	7.004	0.002
Finger 26:	4.011	0.005	5.010	0.005	6.008	0.004	7.008	0.004
Finger 27:	4.006	0.003	5.008	0.004	6.004	0.002	7.007	0.003
Finger 28:	4.006	0.003	5.009	0.005	6.001	0.001	7.005	0.003
Finger 29:	4.009	0.004	5.007	0.003	6.018	0.009	7.006	0.003
Finger 30:	4.012	0.006	5.009	0.005	6.004	0.002	7.010	0.005
Finger 31:	4.006	0.003	5.009	0.004	6.006	0.003	7.010	0.005
Finger 32:	4.007	0.003	5.010	0.005	6.007	0.004	7.010	0.005
Finger 33:	4.006	0.003	5.006	0.003	6.002	0.001	7.005	0.003
Finger 34:	4.006	0.003	5.006	0.003	6.006	0.003	7.009	0.004
Finger 35:	4.006	0.003	5.007	0.004	6.000	-0.000	7.003	0.001
Finger 36:	4.006	0.003	5.004	0.002	6.006	0.003	7.006	0.003
Finger 37:	4.005	0.003	5.008	0.004	6.005	0.002	7.002	0.001
Finger 38:	4.009	0.004	5.009	0.005	6.004	0.002	7.006	0.003
Finger 39:	4.008	0.004	5.007	0.003	6.004	0.002	7.004	0.002
Finger 40:	4.014	0.007	5.018	0.009	6.015	0.008	7.015	0.008
Average:	4.008	0.004	5.008	0.004	6.006	0.003	7.007	0.004

Segmented Cement Bond Log Calibration Report
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Serial Number:	1066
Tool Model:	004
Calibration Casing Diameter:	7.000 in
Calibration Depth:	239.195 ft

Master Calibration, performed Fri Jun 06 10:48:36 2014:		
Raw (v)	Calibrated (mv)	Results

	Zero	Cal	Zero	Cal	Gain	Offset
3FT	-0.003	0.624	0.800	62.165	97.982	1.064
5FT	-0.005	0.565	0.800	62.165	107.576	1.345
S1	-0.004	0.608	0.000	100.000	163.569	0.599
S2	-0.005	0.630	0.000	100.000	157.563	0.769
S3	-0.003	0.646	0.000	100.000	153.985	0.504
S4	-0.005	0.664	0.000	100.000	149.525	0.708
S5	-0.002	0.647	0.000	100.000	153.887	0.363
S6	-0.003	0.619	0.000	100.000	160.710	0.526
S7	-0.002	0.606	0.000	100.000	164.330	0.391
S8	-0.002	0.598	0.000	100.000	166.504	0.413

Gamma Ray Calibration Report			
Serial Number:	000001		
Tool Model:	020		
Performed:	Sun Jun 13 13:33:21 1993		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	1.0000	GAPI/cps	

	Company	Whiting Oil & Gas Corporation
	Well	Razor Federal 26J-3510B
	Field	Wildcat
	County	Weld
	State	Colorado